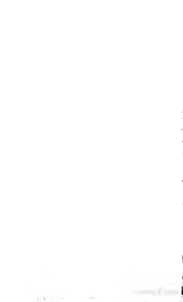


**OBSERVATIONS
ON THE GENUS
MESEMBRYANTH
EMUM, IN TWO
PARTS;...**

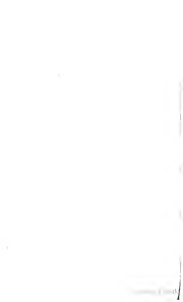
Adrian Hardy Haworth











OBSERVATIONS

ON THE GENUS

MESEMBRYANTHEMUM.

OBSERVATIONS
ON THE GENUS
MESEMBRYANTHEMUM,
IN TWO PARTS;
 CONTAINING
 SCIENTIFIC DESCRIPTIONS
 OF ABOVE ONE HUNDRED AND THIRTY SPECIES,
 ABOUT FIFTY OF WHICH ARE NEW,
 DIRECTIONS FOR THEIR MANAGEMENT;
 NEW ARRANGEMENTS OF THE SPECIES;
 REFERENCES TO AUTHORS;
 AND A GREAT VARIETY OF
 CRITICAL, PHILOSOPHICAL, AND EXPLANATORY
 REMARKS,

BY
ADRIAN HARDY HAWORTH,
 LATE OF CHESTERHAM, YORKSHIRE;
 NOW OF LITTLE OUSEBORO, LINCOLNSHIRE.

NOTE As this title is incapable of being unambiguously construed, as a *Review* or *History*, being in no part of History that title will accordingly be a *Review* or *justification*.

Printing: Printed by Henry in England.

" Most of the plants of this genus have beautiful flowers, which appear at
 the different seasons of the year, those of them commonly in the Spring, others
 in the Summer, some in Autumn; and others are others all the year; and
 and many of them produce their flowers in such quantity, as that others they
 are sometimes the plants are perfectly covered with them; they have all of
 the same kind, sometimes large, and others of the species are much more so than
 others, and the fragrance of these flowers vary according to the several species, that
 they affect an agreeable variety what are the flowers?"

Author's Character: Dictionary, 1810.

LONDON.

Printed and sold for the Author, by J. BARNES, Pall Mall street,
 Drury-lane; and also by R. and J. WALKER, Fleet-street.

MDCCLXIV.

Printed at St. Dunstons-Hall,



TO THE MEMORY OF
RICHARD BRADLEY, DECEASED,
WHO WAS FELLOW OF SOCIETY IN THE UNIVERSITY OF
CAMBRIDGE,

AND WHO UNDERTOOK
A GENERAL HISTORY OF SUCCULENT PLANTS,
FIVE VOLUMES OF WHICH HE LIVED TO FINISH,

THESE OBSERVATIONS
ON THE SUCCULENT GENUS
MESEMBRYANTHEMUM

ARE INSCRIBED

BY THE

AUTHOR.



OBSERVATIONS
ON THE GENUS
MESEMBRYANTHEMUM,
IN TWO PARTS;
PART THE FIRST.

CONTAINING
AN HISTORICAL SKETCH OF THE GENUS,
VARIOUS METHODS OF DIVIDING IT INTO
NATURAL, CONVENIENT, AND USEFUL SECTIONS;
AND A GREAT VARIETY OF
CRITICAL, PHILOSOPHICAL, AND EXPLANATORY
REMARKS,

BY
ADRIAN HARDY HAWFORTH,
CLERK OF ROTTERHAM, YORKSHIRE,
NOW OF LITTLE CRANES, WIGBORNE.

M.DCCC.XCIV.



P R E F A C E.

THE following pages on the genus *MIMAN-
THUS* I have persuaded myself, per-
haps somewhat prematurely, to publish to the So-
cietal World.

THE observations and descriptions they con-
sist of, are entirely the outcome of the last three
months, during which time I have been perpetually
engaged in searching after the very numerous and
very beautiful subjects of this extensive genus, in
most of the Nursery Gardens and principal collections
of exotic plants in the environs of London.

My researches have been successful beyond my
expectations, and I have had almost the daily plea-
sure of adding the descriptions of new species to my
memoranda, and of enriching my *Herbarium*,
or *Herbustum*, with the specimens of them, after I
had committed their most characteristic definitions
to paper, never dreaming in the beginning of the
business, that they would either so quickly become
bulky, or that I should *so soon experience to transfer*
them to posterity.

If I had thought so at the time most of the earlier
descriptions were made, I should, I am sure, have
been somewhat more guarded in the construction of
their characters.

A

Am

And I likewise should have used every caution to have reduced the number of ambiguous names, which at present stand marked under any division of the genus, " *Hybris maho*."

I CANNOT avoid considering them the opprobrium of my list, and have even denied them a continuation of the marginal remarks which attend the more regulated species.

My only reason for inserting them at all, is, that some one, possessing better opportunities, and Reader abilities than myself, may reduce them to the fiction: they belong.

I HAVE thought it most advisable to throw the first or introductory part of my *Observations*, or as it may perhaps more properly be called, the *miscellaneous or heterogeneous* part, into Heads or Chapters, that the nature of their contents may be more advantageously recomended in their Titles.

I HAVE given no figures or engravings, and for three reasons, which I shall be excused enough to declare :

FIRST, I never met with all the new species in flower, for as few of them indeed have not as yet been introduced into this country.

SECONDLY, In some few of the Collections I visited, I was unable to obtain specimens proper

proper for drawing, although many of the plants I wanted were finely in bloom, and

THIRD. The expenses attending the drawing and engraving of plants, are, (I have had the mortification to be told,) in undertakings of this nature at least, somewhat more certain than the reimbursement of such expenses.

THAT others may not want the opportunity of inspecting themselves the plants I have described in the following pages, it may not be entirely useless or unnecessary to make mention of some of the principal Gardens, in which I have observed good Collections of *MAMMISTANTHUS*.

THEY ARE,

indifferently &c.

THE KING'S AT KEW.

SECOND. That of ——— *Simmons, Esq. Piddington,* in the number of living species.

THIRD. Mr. Lee's Nursery at Hammer-smith, is poor of rarity, not so number of living species.

FOURTH. The Worshipful Company of Apothecaries Physic Garden at Chelsea.

Perry, Mr. Malcolm's Nursery at Kensington, where I found a new species, which I met with in no other Collection.

SEYB, Mr. Curtis's Botanic Garden at Brompton, to which as a subscriber I have the pleasure to belong.

SWEET, Messrs. Thompson and Co's Nursery at Mile End, where I met with another new species, which I have not seen in any other Collection.

EMERY, Messrs. Gilman and Co's Nursery, Kensington, where I also found another new species, in no other Collection, (so far as I know at least) which was lately sent by the foreman from Cape Cod. The foliage of this plant I have minutely described under the name of *denticulatum*, from a small specimen which he obligingly gave me.

NAMES, Under this head may be added many other Collections of less note; ~~but~~—there has been a good number of the old species at John Orme's Esq. Waltham Green, but not being (when left to themselves) of so durable a nature as the fine and beautiful old brick ones there, they are left upon the decline.

Me

My greatest wish is, that my observations on *MISMERYANTHEMA* may stimulate some one, more able than myself, to take up the subject, and figure the genus.

I must regret that it has not been in my power to give complete descriptions of all the species; it was my original intention to have done so, but the season was too far advanced for procuring proper specimens of many of them, before I had made up my mind to publish (in the present year) the remarks I had by me; and others, I have already observed, I was not able to obtain proper specimens of, although I had the mortification of losing them capariously covered with flowers.

I HAVE, however, described all the sorts throughout the observations, as far as my specimens would permit, and in no one instance, but from the real plant, or a portion of it, except where the contrary is particularly expressed.

Some of the specimens I have described, I will not omit to mention, were extremely imperfect and small, but wherever that was the case, I have not failed to point out in what respect they were defective, that the reader may be enabled to judge what degree of confidence is proper to repose on characters drawn from such imperfect materials.

In a word, I have, throughout the whole, endeavoured to make him as much acquainted with every part of the subject, as my specimens and my descriptions of them, have made me acquainted with it.

A. H. HAWORTH.

Little Glosbe, }
Nov. 1, 1794. }

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PART THE FIRST.

CHAPTER I.

CONTAINING AN HISTORICAL SKETCH OF THE GENUS *MESCHERYANTHEMUM* AND OF PASTORUS READING, WHO SPENT THE HISTORICAL PLANTYARD VOCALIZATION.

I CONCEIVED an early attachment to Botany and Gardening, particularly to that department of Horticulture which applies to the management of succulent plants, and more especially to that large portion of them which is so well known by the name of *MESCHERYANTHEMUM*.

MESCHERYANTHEMUM, or as our English Gardeners call them, Fig-Marygolds, (from their seed vessels looking somewhat like little figs, and their flowers distinctly resembling those of the common marygold,) have long been the favourites of most who cultivate plants.

PASTORUS (a term applicable to any thing resembling a Fig,) was the generic name of Tournefort and others; until LAMARCK thought proper to reject it in favour of the present term, *Mescheryanthemum*, a word of Greek composition, signifying a flower which opens in the middle of the day.

Mr. MILLER, in his most excellent *Gardener's Dictionary*, informs us, that the plants of this genus are chiefly natives of the Cape of Good Hope, from whence their seeds were carried to Holland by the industry of the Dutch, and plants raised in many of the curious gardens there, from which they were communicated to various parts of Europe; that,

They were at first called *Chrysanthemum* by the old botanists, and then named *Ficoides* by Herman and Tournefort, from their capsules being shaped like little figs; and afterwards had the term *SEMIPETALUM* applied to them, which signifies a flower opening in the middle of the day, which he adds is what most of the species do; that,

There are three or four of them which open in the evening, and are closed all day, which have been separated from the others by some, and have, on account of their late opening, had the title *Nyctanthemum* applied to them; from their flowers being expanded in the evening.

Mr. MILLER concludes the paragraph by very properly observing, that as they all agree in those parts of the fructification which characterise the genus, they should on no account be separated.

In the days of Rudley, succulent plants, by the beauty and splendour of their various coloured flowers; by their numbers and variety; by, their singularity,

galivity, oddness, and spangled gait; and by the great facility accompanying their cultivation, gained the admiration of most, and they won the esteem of that celebrated writer so much, that he undertook a work which he entitled, "*Historia Plantarum Sacculentiarum*," five decads only of which he lived to finish, the plates whereof are so characteristic, that the premature death of their author, is to this day at once regretted and felt by the Botanical world.

MESEMBRYANTHEMUM are the most numerous of the plants figured in the abovementioned decads; a proof of the charms they possessed in Bradley's eye; the other plants figured are a few *Alcea*, with *Juncus* *Cisti* and *Euphorbia*.

THOSE five decads were published at different periods in quires, between the years 1716 and 1723, and are now become so extremely scarce, that few have been fortunate enough to see, much less possess them of late.

BRADLEY I think is the only one, who wrote any book exclusively on succulent plants, on which account, I incline to inscribe and dedicate these observations on a completely succulent family of plants to his memory: he was the author of more than twenty separate publications, (besides the "*Historia Plantarum Sacculentiarum*,") chiefly on Botany, Gardening, and Agriculture, most of which are very

well known, and allowed to possess much merit for their time; but their use has in a very great measure been superseded by later works.

BRADLEY flourished in the beginning of the present century, was chosen Professor of Botany in the University of Cambridge in the year 1724, and died in the year 1731; a further account of him may be found in the 35th Chapter of Dr. Pulteney's agreeable "*Progress of Botany in England.*"

CHAPTER II.

GREAT INCREASE OF SPECIES OF MEXICAN-
TRENTHED, MORE THAN DOUBLED SINCE THE DAYS
OF BRADLEY, IN BOTH BEAUTY AND NUMBER,—
ALMOST ALL FROM THE CAPE,—MOST COLLEC-
TIONS OF PLANTS ABUNDING IN THEM—FEW
OF THE CULTIVATORS CAPABLE OF DISTINGUISH-
ING THE SPECIES FROM EACH OTHER,—ANNUAL
SPECIES FEW AND NUMEROUSLY ABUNDANT, BUT EX-
TREMELY RARE IN OUR COLLECTIONS.—DIE-
BUSH THIRTEEN FIFTY FOUR SPECIES OF MEXICAN-
TRENTHED.—THE AUTHOR'S WISH THAT
SOME ONE WOULD BESTOW THE SUBJECT AND
EXPAND THE WHOLE GENUS.

IF the individuals of the genus MEXICAN-
TRENTHED possessed such charms in the days
of Bradley, when they were not known to be
near half so numerous as at present, what ought
they to do now, in the more than doubled number,
which our modern collections boast?

THEIR charms indeed we have found have kept
pace with the new additions to the genus, which
have thronged upon us in crowds from the Cape;
for some of the new ones, discovered by the in-
disputable Mr. Maffon and others, are the most
beautiful and admirable of their tribe; witness
speciosum, *speciosella*, *purpureo-croceum*, and others,
enumerated in their DESCRIPTIONS.

It is no wonder therefore, that they should continue the favourites of most who cultivate plants; they are deserving their care, and have a peculiar claim to their most attention, for, being so warm, even a family, many of the species are, (as is the case in all other extensive genera,) with difficulty distinguished from each other.

ACROSS I have less no collection of plants without many species of *STANTONIA* in it, I have not as yet been fortunate enough to meet with any one collection, which had near the whole of the forty enumerated in their observations; much less have I met with any one capable of distinguishing, and pointing out the distinctions of the sorts, at sight; Mr. Lee, son, a Nurseryman at Hamstead, is reported to know them by the names of Spec. Pl. and Hort. Kew. much better than any one, and is said to have all the species known in this country in his possession; but from real observation, and so far as I am capable of judging, I do not hesitate to say, that he neither does the one, nor has the other.

For greater information is to be found in his Majesty's superabundant Garden at Kew, where I have had the frequent pleasure of contemplating a matchless variety of them in the finest health; and even there, (notwithstanding some half a score accidents make their appearance in Mr. Aiton's *Hortus Kewensis*) I have not as yet had the fortune to find

more

more than two species with annual roots; they were the beautiful *chrysaligam* (common ice plant) and more delicate *pinnatifidum*, (jagged leaved ice plant, or fig-marygold,) figured on the 67th plate of Mr. Curtis's Magazine, nor have I yet seen in any other collection any other annual fort.

The gardeners and managers of common collections, although they cultivate a great many species, for the most part, know very little about them, beyond their beauty and varied singularity; except perhaps, the great facility with which they are propagated and kept, and the considerable neglect they will occasionally sustain in point of watering, &c. without undergoing the injuries which thousands of other plants would do, under similar hardships; for which latter reason they have gained, and very deservedly, the favour of most who have the management of plants.

THAT great and increasing number from that never-failing source of beautiful plants, the Cape, and other places, has long demanded the attention of some scientific Botanist to re-arrange and describe them; to point out their economy and affinities; and make them known to the world; but notwithstanding their increased and increasing attractions, they have not as yet found either a second Bradley or Dillenius to publish the descriptions they require, and the figures they deserve,

DILLINGHAM, a name which is deservedly ranked amongst the very best in the annals of Botany, appears to have been the second, and indeed the last, who has paid any particular attention to the plants which are the immediate objects of this Essay. In the year 1732 he published his valuable "*Flora Eboracensis*," in which, along with a great many other things, equally interesting and new, he figures and describes according to Dr. Pulteney (in his prospect of Botany in England) 54 species of *MONOCOTYLEDONITES*.

My only wish in the publication of these OBSERVATIONS, is, that they may have a tendency to excite some one, more able than myself, (and to whom the *dry* plants are more accessible,) to take up the subject and figure the genera.—It may not be altogether improper to explain what I mean by saying the *dry* plants are more accessible to others than myself, which a subsequent relation of the following circumstances abundantly develops,

CHAPTER

CHAPTER III.

CONTAINING AN ACCOUNT OF MR. LEE'S MICHMANTHENA.
 ENTANTHENA.

EARLY in the spring of the present year, I went to Hammer-smith, to solicit the favour of seeing Mr. Lee's MICHMANTHENA, for I had heard he had got the first collection of them about London; but although I found he had a many rare and novel-shaped species, I also found his collection wanted a great number of the sorts which I have since seen flourish in his Majesty's michmich collection at Kew.

When I arrived at the nursery, I was fortunate enough to meet with the foreman of the ground; whose civility induced him to show me all the MICHMANTHENA he was acquainted with, but as he could not satisfactorily tell me, which of the sorts were, and which were not described, I fell much short of the information I sought, for only seeing the plants in a cursory manner, without any book upon the spot, and being at that time unacquainted with a great many of the Kew catalogue species, I found myself when I got home, unable, either to describe properly the new sorts from memory, (after so slight a first view,) or, to distinguish, with full-plant position, which were novel-shapes, and which were

were already described; and the incongruous names, *foeniculatum*, *californ*, *hamifolium*, *cauliculatum*, &c. which were applied to some of the sorts, and which founded both in my memory, rather tended to impede my confusion, than develop the plants.

Not deterred by a few difficulties, I again went to Hammerwich in June last; and thought myself exceedingly lucky to find Mr. Lee (senior) in the ground; of whom, (after introducing myself to him as a general Botanist;) I requested the favour of being permitted to view his *SEMPERVIVENTINA*, adding, that I was particularly attached to that tribe of plants; and by way of compliment, told him, I had heard much both of the rarity, and number of the sorts he cultivated.

After desiring me to stay while he went to, and returned from the house, he showed me the plants, and by way of trying my strength, I suppose, asked me the names of a great many more sorts than he condescended to tell me the names of.

I took the liberty of endeavouring to fit him right in the names of one or two of the *SEMPERVIVENTINA*, described by LINNÆUS in *Species Plantarum*; (particularly the *M. glomeratum*;) at which he was evidently chagrined, and affected to smile at the idea of my attempting to teach him the

The names of a lot of plants, he said he had been accustomed to consider himself familiar with from his youth.—I endeavoured to explain matters, but my remonstrance was not attended to.—The chagrin I then innocently occasioned, was the foundation to the incivility he showed me when I went to Hammerfirth again in August, with an intention of examining some of the ferns; which I have not to this day seen the flowers of, and am most doubtful about, and which I know he would have in bloom about that time, from having observed them preparing for it when I was there in June.

I went in August I say, to Hammerfirth again; a third and last time, and thought myself particularly fortunate in finding Mr. Lee (Senior) again walking about the nursery, I addressed him in the cheerful language of politeness and civility, and again solicited permission to look at his plants; when, remarking the little respect I had already appeared to pay to one or two of his names of *MACOMBATANTHUS*, he answered me, by uttering something like the word *well*, in a tone of voice almost as unrecognizable, as it was unpleasing; and immediately walked on along the path he was in, and then turned off to the left, to a man at work; to whom I very naturally conjectured he was giving instructions, and from whom I as naturally supposed, he would either return to me, find a man to show me the plants, or a message permitting me to let them alone; or otherwise a denial to view them at all; which last indeed, I did by implica-

.Dun,

tion, tacitly receive; for he neither returned to me himself, nor sent a message; but suffered me to wander about by the principal Walk which leads to the Temple, until I was tired of waiting; after which (fired with disappointment and affront) I came away, without being permitted to look at a single thing I wished to see; but not, without forming *me* resolutions; *even*, to record the behaviour which occasioned my perplexity, *was* *or* *was*, to return to the scene of it no more. But to drop this perplexing digression.

CHAPTER I.

CHAPTER IV.

PERIODICAL OPENING AND FOLDING OF THE FLOWERS OF *MIMBRYANTHEA*. AN INQUIRY INTO THE NATURE AND CAUSE OF SUCH OPENING AND FOLDING.

THE flowers of *MIMBRYANTHEA* open and shut periodically, very rarely expanding their perfect blossoms, but to a warm sun, whose invigorating beams they seem greatly to rejoice in; * flowers of the sorts open, in the house, almost as soon as the sun shines upon them in a morning, and continue open several hours, if the sun remains undisturbed; but if he disappears half an hour after they have first opened, they close themselves up; they also very soon close, if put out of a warm stove, when expanded, into the open air, notwithstanding the shining of the sun.

Green sorts do not open their flowers while towards noon, and fold them up from the same cause as the first.

And others do not open while the afternoon;

* By a perfect blossom, I mean such a flower as either has not faded, or is just fading in terms; which is the state I will the word flower to be taken in throughout this essay, except a contrary meaning is particularly expressed.

And a very few, not until evening; none of which ever expand their flowers without the presence of the sun, and all of which, so far as my own observations have extended, fold up before his setting, except *dolabrifera*, (bachelor leaved) which I have found to open about the hour sunset, (dog chap.) there, and close about nine in the evening; at least such was the case in August last with plants of that species in a green house, kept as cold as the season could make it.

The most remarkable circumstance attending the flowering of *HEMEROCALLIDIS*, is their inability, or as I had almost said, their unwillingness to expand their blossoms, on such days as are not sunny, notwithstanding they had opened them a day or more before, and are capable and ready to open them again, as soon as the sun shines, if he does so before their time of opening is expired; beyond which no power of that charming luminary can tempt them to unfold; such and so great is their strict and temperate performance! if it is an allowable appellation.

I HAVE known some of the sorts abstain from opening two and even three successive days in a dull season, although they had expanded before, and afterwards unfolded again to the next sun that suited their time.

But after so long suffering the folded state, and then opening, nature seems to perform the business of impregnation quicker than she would have done, had the act no interruption, or perhaps she might have been preparing matters, while under the folded state; although, I am inclined to believe, she could not have effected much in that unfavourable situation; for I have uniformly seen the best fruits or seeds, in those flowers which had been often opened, and suffered the slowest interruptions.

This peculiar economy which attends the opening of the flowers of *MINISTANTHUS* as related above, naturally gives birth to the following conclusions.

THE seed must be nourished and sustained by a particular flow of a peculiar juice into the parts of fructification, and when that flow has gone on a certain necessary time, and been acted, to a certain necessary height, the great business of impregnation is accomplished.

It seems to appear then, that the essential flow of this essential juice, is very forcibly acted upon, accelerated or retarded, if not altered and vitiated, by the presence and absence of the sun's rays; but can we hence allowably infer, that the great business of impregnation is suspended and stands still, in a flower that has once been open, and then suffers the folded state from dull weather for one or more days?

I answer

I certainly apprehend it does not stand absolutely still; but cannot help conceiving that it almost does so, and am convinced that no perfect seed would succeed a flower which had never been naturally expanded.

The action of the air appears to be necessary amongst the parts of fructification, to enable them to go through and complete the functions which nature has destined them to perform; but I have found the absolute rays of the sun immediately upon the flowers are not in *all* cases essentially requisite, either to their expansion or perfection of seed; it is only necessary that it should be what we call a sunny day, for flowers which are accidentally shaded in a slight manner by other plants, or by a wall, open nearly at the same time, and observe nearly the same laws, as those which enjoy the scorching beams of the sun upon their surfaces, and are capable of perfecting their fruit; but it is truly remarkable such shaded flowers, rarely, if ever, open on dull days.

These circumstances I have observed in plants put out in the open air in summer, * under the shade of a wall, or any other thing. Do the flowers of Daisy (Bellis) and Gentian, (Tingitagon) observe the laws of opening their flowers after this

* It might be kept in remembrance, that the Spring and Summer are the proper seasons for making these observations, for flowering yearly plants of my kind, are much hindered, and lose much of their vivacity, and often perish, from the pernicious chill of autumnal damps.

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manner? Particularly after having once opened, do they remain folded if dull weather intervenes, and then open again to the first sun that falls their hours? Or, after having suffered the folded state subsequent to any particular opening, are they thereby rendered incapable of expanding again? I fancy not.

Some from hence may be tempted to suppose that, (like dobing and slowing wells,) a certain number of hours are necessary for nature to recruit the strength exhausted by an opening of the flower, (of any plant, which like a *MIMULUS*, only expands them periodically,) before she is capable of opening them again; but this kind of theory, however ingenious, would not account for the flowers of a *MIMULUS* remaining folded two days together, subsequent to any particular opening, and then expanding them again, on the fourth day, if sunny; except, perhaps, by way of subterfuge, they say, the required force or strength is not supplied in such sufficient quantities, in dull, as in fine and sunny weather; but I would ask such expounders, what material effect can the sun be supposed to have upon such sorts of *MIMULUS* as open their flowers in an evening, particularly *scaberrimus*, (night flowering) and *dolabriformis* (hatchet leaved?) which are said only to expand in fine sunny weather, and can newly have the beams of the sun immediately upon them, (in their expanded state, at least,) from their

late hours of opening, and I never could see even them upon their perfect flowers in dull days.

The different periods and causes of their opening, I am inclined to think may be better accounted for, and explained upon somewhat more rational principles; upon the principles of their irritability.

CHAPTER

CHAPTER V.

THE PERIODICAL OPENING AND FOLDING OF THE
FLOWERS OF *MIMMANTHES* ATTEMPTED
TO BE ACCOUNTED FOR UPON THE PRINCIPLES OF
IRRITABILITY.

ALL the species of *MIMMANTHES* which I have had the opportunity of observing, require a certain stimulating force or power to enable them to expand their flowers, which stimulus I have found is produced or generated by the action of the sun's rays, either upon the flowers themselves, or upon the circumambient air immediately surrounding them, (which, when properly saturated with the beams of the sun, forms a fertile atmosphere for the expansion of the flowers) for it is not absolutely necessary to the opening of the flowers, that the rays of the sun should actually be in contact with them, or, in other words, *fall* upon them; it is entirely sufficient, if the influence of his enlivening beams acts upon the surrounding air as above observed; for as I have said before, flowers casually shaded, expand nearly as well as those which have the beams of the sun shining upon them, but perhaps not quite so early, as they are off course in a somewhat denser and less rarified atmosphere; which circumstances led induced me to account for the periodical expansion

of their flowers, upon the principles of their instability; although others, from the very same reasons, might be tempted to infer, (were not facts to contradict it, and facts are stubborn things,) that the opening of the flowers depended upon the spring and elastic pressure of the air; and that a cool and consequently heavy atmosphere, compressed the calycine leaves together, with a greater force than the inner parts of fructification, and the spring of the air enveloped therein, uncounteracted to expand them; and that a fiery, and consequently light and rarified air, by lessening the outward pressure on the calycine leaves, enabled the inner parts, by the assistance of their natural vegetating impulse, to overcome it, and open the flowers.

Two facts which I have alluded to, as militating against the last mentioned doctrine, are at once familiar, obvious, and easy: for, if the opening of the flowers of any particular species of *Stachytarcton* depended upon the spring and elasticity of the air acting upon their calycine leaves, it should strictly, and as a natural consequence, follow, that all the perfect flowers of that species could not open in any periodically way, or particular time of the day, as they now do; but at the identical moment, when the mercury of a good thermometer placed near them, indicated upon its graduated scale, the degree of warmth precisely necessary to expand the flowers; and it would also follow, as a consequence equally necessary, that the same degree of

all heat, whether natural or artificial, which had so expanded them, should keep them expanded, not only in the day-time, but in the night, as well as the day; in the dark, as well as the light, until the business of impregnation was performed.

It is scarcely necessary to add, how much more the expanding blossoms of *dolabriformis* and *noctiflorum*, are found to prefer the levelling coolness of a summer's evening, to the fervid warmth of the mid-day's sun.

But let me return and discuss the principles of irritability, which the flowers of *Melastomayanthemum* appear to be endowed with.

I run from the result of my enquiries upon these principles:

FIRST, that almost all the sorts differ from little in their times of opening.

SECONDLY, that the flowers of most, if not all the sorts, I have had the opportunity of examining, both open and close, somewhat earlier the first and second times of opening and closing, than they are capable of doing afterwards. The difference should seem to arise from the impoverished state of their irritability, which impoverishment I have observed to increase a little upon them, with every time of their opening and closing.

THIRDLY, that the closing propensity of the flower appears to suffer somewhat more every time of folding, than the opening faculty; for the flowers, in proportion to the decrease of their susceptibility, remain longer and longer open, until they are rendered incapable of closing at all, at least, in any regular manner; at which period, the faded petals are then withering, partly expanding, partly open, (and in some instances, adhering to each other, in a sort of rude folded manner,) about the impregnated germ, which seems no longer to want the protective covering of the folding corolla, but appears devoid amidst its faded and now useless remains.

And lastly, that no sort is capable of expanding its perfect blossom in gloomy weather, and that when a dull day intervenes between any two times of opening of the same individual flower, the irritability of that flower is somewhat altered by the interruption.

From a proper consideration of all the foregoing circumstances, and from recollecting that some of the flowers of *MIMAMANTARUM* open in the morning, others about noon, and a few not until the evening, and none at all in gloomy weather, it manifestly seems that the different species require various and different degrees of some stimulating material to prompt and enable them to expand their blossoms, by acting properly upon the principles of their irritability, and it is as evidently apparent,

appears, that this irritating principle exists abundantly in the beams of the sun.

SOME *MESEMBRYANTHEMUM* expand their flowers early in the morning, as *bicolorum*, &c. are doubtless the most sensible, and open with a smaller stimulus, than the other sorts. Those which unfold rather later in the forenoon (and it is the case with a great many species) take more.

Those which open in the afternoon, as *caeruleum* and others, yet more of the stimulating material, and those which do not, open while the evening is delubrious and nocturnal should them to require most of all.

In this place however, it is easy right to observe, that I have never been so fortunate as to see the perfect flowers of *nocturnum* expanded: I have seen some of them in bud, and when they have been on the go off, as the gardeners term it, but never at the critical juncture of expanded perfection; nor have I been able to learn from others with sufficient precision their hour of opening, which from the name we must assuredly suppose, is the least of all.

The stimulating principle I speak of, and which I have said before, exists so abundantly in the beams of the sun, that whenever they shine a certain necessary time, they invariably cause the perfect blossoms of *Meisembryanthemum* to open and enjoy

them, is not however, (although very general,) in absolutely universal as I could wish it to be.—

For there is a circumstance which must not be concealed, that militates against my notions of the above-mentioned comparative instability, which supposes a greater quantity of the stimulating principle, that is, a longer continuance of the sun's rays, necessary to expand the flowers of the late *WINTERASTRUM* as *delicelliforme* and *nodiflorum*, than is required to unfold the flowers of the early opening ones, as *bicolorum*, *marianum*, &c.

The circumstance I allude to, is, that the flowers of the late opening sorts, as *delicelliforme* and *nodiflorum*, are capable of expanding, in a sunny afternoon, notwithstanding the forepart of the day had been dull, it should therefore seem almost enough for them, if the sun shines a little before their natural time of opening.

In order to remove, or at least weaken this difficulty, it will be necessary to admit, that a certain degree of the above-mentioned stimulus, is constantly going on in the day time, although the sun does not shine out, and we shall not hesitate to do this, when we call to memory, that every ray of light (as dull as well as clear weather) acts, in a certain degree, after the manner of a stimulus on the flowers of plants, as well as the absolute beams of the sun; for as that enlivening luminary is demonstrated

limited to be, the source of every atom that can be called light, it naturally follows, that every beam of light, in dull as well as clear weather, is to all intents and purposes, a beam of the sun, which if transmitted to us, through a clouded or obstructed medium, is consequently constituted, proportionately in its effects,—but not entirely deprived of its stimulating power.

To ascertain precisely the times of opening of all the known species of *Melampyrum*, and the stimulating force, necessary to expand the flowers of each, would form the course of a very amusing and instructive chain of experimental observations, particularly if most of the sorts, (especially the late openers,) were about their time of opening, admitted suddenly to the light of the full sun, after having been kept in the dark a few hours before; the resulting conclusions deducible from ^{such} experiments might have a tendency to throw a greater light upon the dark and mysterious nature of vegetable anatomy, than we can at present be aware of.

In August last, urged by a strong desire to explain these things, I caused a fine healthy young plant of *MELAMPYRUM CUPRUM* (dog-chap.) and another of *MELAMPYRUM* ^{*de-*}*labiforme* (hatchet-leaved,) equally healthy, and both with proper aged flowers upon them, to be entirely darkened, by covering them with a large tub

in the greenhouse they grow in; after they had felt several hours sun upon them in the fore part of the same day, and about their hour of opening, I suffered them to be admitted to the beams of the full sun, but neither of them made the least effort to open their flowers, although those of *dolabriforme* in particular, had been open for the first time the day before, and opened the following day very well, after having enjoyed the beams of the sun in a sufficient manner.

THE experiment was afterwards repeated on the same subjects, with nearly the same effects.

THAT experiments appear something in support of my system of irritability, by showing the rays of light, whether sunny or not, (for some of the late sorts open if the afternoon only is fine) are incessantly stimulating, the flowers of *MEMORABILANDIA* to open for a great many hours before they do so.

BUT if their flowers, (especially those of the late sorts, as *acutiflorum* and *dolabriforme*,) have the misfortune to be utterly deprived of their rays, only for a little while the day closes, and their hour of opening passes away before they are able to recover and catch up the time they have lost.

PRESENT this may not be entirely the case with the early opening ones, as *varium* (golden,) and others which open their flowers about nine o'clock in the

the morning, and, which are only able to sustain the sun's beams a very few hours before they fold them up again.

It would be worth trying whether nature could not be made to expand its flowers in the afternoon, by darkening them properly very soon in the morning, and keeping them darkened until the time of their folding expired, and then admitting them to the full light of the shining sun, which perhaps, even at that time, might operate upon them, and expand their blossoms in the afternoon.

Such an event, (which is at least probable,) if it bore the test of repetition, would not only be exceedingly curious and uncommon in itself as counteracting, or at least very greatly retarding an established operation in nature, but would prove to a demonstration any above-mentioned system of irregularity.

CHAPTER VI.

THE VOLUNTARY MOTIONS OBSERVABLE IN THE LEAVES OF *MIMOSA PUDICA* [SENSITIVE PLANT] *HYDYLEURUM CYRANUM* [MOVING PLANT] AND *DIOSCOREA MUCIPULA* [VENUS'S FLY TRAP] COMPARED TO AS OF A SIMILAR NATURE TO THE PERIODICAL OPENING AND FOLDING OF THE FLOWERS OF *HELMINTANTHEMA*, OR TO ARISE FROM THE EFFECTS OF SIMILAR, BUT WEAKER CAUSES, AND REASONS FOR SUCH SUPPOSITIONS. DR. HILL'S OPINION ON THE NATURE OF THE SENSITIVE PLANT.

IT would also throw great light upon the nature of the motion of the sensitive plant, (*Mimosa Pudica* Linnæi,) and moving plant, (*Hydyleurum Gyneris* Lin. Sup.) which doubtless exist under somewhat similar principles, at least every one knows the great effect the rays of light, especially when sunny, have upon these plants; and Dr. Hill, so much known for his multifarious literary productions, had a very high opinion of the power of light on the former of these two sensitive and wonderful vegetables.

The principles of motion which are known to exist so actively in that miracle of a plant, the fly trap of Venus, (*Dioscorea Mucipula* Lin.) the spinulose leaves of which, when irritated by the venery feet of some intruding insect; actually close upon, transfix, and kill it, the principles of casual motion

in the *Dioscorea truncipeda* I say, are doubtless somewhat analogous to the *forced* motions of the sensitive plant, the *natural* motions of which I am firmly persuaded are regulated by the effects of light upon the surfaces of its leaves, its *forced* or *reflex* motion so much admired, I mean the shrinking of the sensitive plant's leaves when touched. Dr. Hill thought also depended very much upon the effects of light, and published the experiments he made upon several sensitive plants, to ascertain more clearly the nature of the very high powers of susceptibility in those animated vegetables, which I have somewhere read, but do not possess.

Are the *forced* motions of the sensitive plant, or rather the powers which occasion them, are in all probability of the same nature, as the folding of the flowers of *MIMULANTHUS*, exposed to a cold air, for the leaves of a sensitive plant suddenly exposed to a colder air than it was in before such exposure, close as well as the flowers of *Mimulanthus* is exposed, but much quicker, that is, the former close almost instantaneously, while the latter requires a few minutes to complete their closing, from whence by the aid of analogy, it is only natural to conclude that the closing principle is the same in both, but the fund of susceptibility exceedingly greater in the sensitive plant, than in the flower of *MIMULANTHUS*.

What is vulgarly called the sleep of plants, that is, the folding up of their leaves in an evening, and
which

which is observable in almost all the plants of the natural order, leguminosæ is doubtless dependent on similar principles.

There was a piece wrote in Sweden, either by the great Linnæus, or some of his pupils, and published in the *acta universitatis* on this identical subject, entitled "*Serpens Plantarum*," which I am sorry to add I have not seen, and am entirely ignorant how the subject is handled in it.

CHAPTER VII.

THE OPINION OF THE CELEBRATED MILLER ON
THE MOTION OF THE SENSITIVE PLANT.

MR. MILLER, the celebrated author of the
Gardener's Dictionary, of which LAMBERT
SIR, *Nos. et Lætes Hortensium, et Botanorum*,
was of opinion that the light had very little or no-
thing to do with the motion so much admired in
sensitive plants.

On which account, I shall take the liberty
of copying the ideas of so practical and amiable a
man on this subject, from the 7th edition of his
useful and scientific Dictionary, and then comment
upon them; for the natural motion of the sensitive
plant bears too striking a likeness to that of a
sensitive plant folding its flowers periodi-
cally, to be disregarded in an essay intended to ex-
plain that periodical folding. Miller speaking of
sensitive plants in general, and those are of several
species; says,

" It would be to little purpose to trouble the
" reader with the several odd stories related of these
" plants by travellers, or to insert what has been
" said by others, who have attempted to ac-
" count for the motion of the leaves of these plants
" on their being touched, since there has not been
" any

" any thing wrote on this subject worthy of being
 " noticed, that I have yet seen, I shall therefore
 " only mention what I myself have observed in these
 " plants, for more than thirty years that I have cul-
 " tivated them.

" The first is, that they are more or less, dis-
 " ceptible of the touch or pressure, according
 " to the warmth of the air in which they grow ;
 " for those plants which are kept in a warm stove,
 " contract their leaves immediately on being touch-
 " ed, either with the hand, a stick, or any other
 " thing, or by the wind blowing upon them ; some
 " of the sorts only contract their small leaves, which
 " are placed along the midrib ; others not only con-
 " tract these small leaves, but the footstalks also de-
 " cline downward on being touched : the first are
 " called sensitive, and the second hyssop plants ;
 " but when these plants are placed in a cooler situ-
 " ation, they do not move so soon, nor contract so
 " closely as those which are in a greater warmth ;
 " and those which are entirely exposed to the open
 " air, have very little motion, but remain in one
 " state, neither expanded nor closed, but between
 " both, especially in cool weather, nor do these
 " shut themselves at night, as those do which are
 " in a warm temperature of air.

" The second is, that it is not the light which
 " causes them to expand, as some have affirmed
 " who

" who have had no experience of their change ; for
 " in the longest days of Summer, they are generally
 " contracted by five or six in the evening, when the
 " sun remains above the horizon two or three hours
 " longer ; and altho' the glasses of the stove in which
 " they are placed, are covered close with shutters to
 " exclude the light in the middle of the day, yet if
 " the air of the stove is warm, the leaves of the
 " plants will continue fully expanded, as I have
 " several times observed. Nor do these plants con-
 " tract fast till the sun rises in the morning, for I
 " have frequently found their leaves fully expanded
 " by the break of day in the morning ; so it is
 " plain the light does not cause their expansion,
 " nor the want of it, that of their contraction."

CHAPTER VIII.

THE AUTHOR'S REMARKS THEREON.

MR. MILLER is certainly right in saying, the sensitive subjects of the Genus *Mimosa* are more alive and susceptible in a warm, than a cold atmosphere; but I am inclined to think it does not follow from thence, that heat is the sole cause of the expansion of their leaves; it would be drawing too hastily a conclusion to say so; for then, as above observed of *MIMANTHASTHUMA*, a certain degree of heat, on the scale of Fahrenheit's, or any other thermometer, would not only expand the leaves of the one and flowers of the other, but would keep them perpetually expanded night and day, which is by no means the case with either, in any degree of heat.

It will be more agreeable to reason, to suppose the leaves of sensitive plants are endowed with certain principles somewhat analogous to what I have already denominated the principles of irritability in the flowers of *MIMANTHASTHUMA*, which principles being properly acted upon by a warm and sunny air, or even by a warm still air alone (without which, they soon wither and die*) most readily effect the expansion of their leaves; which expan-

* No conclusion should be drawn but from vigorous and healthy plants.

less requires such efforts as the plants cannot keep up longer than a certain limited time, in a certain heightened heat, without being exhausted, and under the necessity of folding their leaves, which is what is called the sleep of the plants; it is in fact a time of rest, necessary for the plants to prepare a fresh stock of juices for the following days evaporation through the open leaves.

Mr. Miller is not quite right in saying they entirely lose their sensibility when they are kept in the open air, for I have myself had three fine sensitive plants (*Mimosa pudica* Lam.) kept in the open air, from March to September, that preserved their moving power pretty bristly all the time, and looked very well; their leaves and shoots were of a much darker colour than if they had been kept in the house; and the former, as Mr. Miller observes, only opened about half towards the latter part of the time they were out, but retained their sensibility notwithstanding, so as to fall immediately upon the touch, and knock each other down pretty fast.

With respect to their being able to expand their leaves, and keep them expanded in a "dormant" state, *that is, without the light,*" as Mr. Miller affirms; I have to observe, that if they can open their leaves, and keep them open in such a situation, they lose, at least, in that instance, all analogy to the opening and folding of the flowers of MENSEMBRYASTEMA, which I have shewn are incapable

able of expanding their flowers when deprived of light.

And I remember reading somewhere, a production (slightly mentioned before) of Dr. Hall, who is sufficiently known by his Botanical writings (whatever intrinsic merit they may have) in which he related several experiments made upon the effects of light on sensitive plants, and asserted, *that they could not at all expand their leaves in a darkened place.*

Whether Miller, or Hall, are right, it would not perhaps become me to determine; for I have had no fair opportunity of making any experiments on sensitive plants myself, I shall therefore be content with observing, that I am at a loss to guess why Miller's *flower was covered with plaster to exclude the light*, except it was for the particular purpose of trying its effect on his sensitive plants; and if that had been the case, why did he not say so, under an article which spoke so minutely of their susceptibility?

If it was not to try the experiment on sensitive plants, I do not know what it could be for, except, perhaps, to keep out the frost in Winter, and then he would not have covered the upright stems in the front of the flower, which alone might have admitted light enough to expand the leaves of the plants in question; but he says they were covered so as to *exclude the light*.

WATSON

Whereas they were really the Winter covers of the trees against frost, or only the simple covers of a garden frame, is not very material to decide. So I shall hasten to conclude this long, and perhaps improper digression, by observing, that any inference which required such covers, must have been an improper one, to draw any *definite* conclusions from, on such nice subjects, for it is well known, and Miller himself, in the same paragraph, speaks of it, how much Minors suffer in their general health, and more especially in their sensitive faculties in cold, dark, and damp weather.

CHAPTER IX.

DIRECTIONS FOR THE MANAGEMENT AND PROPAGATION OF MESSENYANTHEMA, WITH AN ACCOUNT OF THE DISEASES THEY ARE SUBJECT TO, WHICH ARE FEW.

I SHALL now give a few general directions about the management and propagation of MESSENY-ANTHEMA, from actual observations.

THAT all are properly greenhouse plants, in this country, that is, they require no more warmth in the Winter season, than will protect them from the effects of frost.

THAT they also be kept to some advantage in a house in the Winter months, especially the sorts arranged under my section *Sub-umbra*, which being of a short and very succulent growth, are not so apt to be overgrown by the effects of heat, as the upright, woody, and less succulent kinds are.

AND I do not know but almost all the sorts might be wintered in a common garden frame, or even the windows of a dwelling-house, if kept dry, and very sparingly watered, and these in the frame protected by the cover of a common mat in very severe weather; I have known several of the common sorts kept the latter way pretty well, although amongst a
parcel

parcel of moist herbaceous and shrubby young plants.

Some of the firm wooded sorts I have known exist several winters in the open air, but they were planted upon a dry artificial rock, and upon the top, and close by the base of a dry wall; but they made so pretty and desirable an appearance, that it is well worth any one's causing a few plants to be put in such situations, who cultivating them, for being so very readily increased, a few plants if left, are of no kind of consequence.

The sorts I have found the hardiest, and consequently the best for this purpose, I will just mention, for the information of those who may not have thought it worth their while to attend so much to such things as I have done.

The hardiest sorts I have observed then, are *M. bipinnatum*, *M. striatum*, *M. barbatum*, *M. caudiculatum*, *M. glaucum*, *M. racemosum*, and *M. corniculatum* (of these observations); and there are doubtless many others equally hardy; but the best of the above hardy sorts are, *M. fraxinum*, and *M. bipinnatum*, especially the former, which the second season after planting I have seen adorn the top of a dry now sheltered wall, with a profusion of its beautiful flowers; and I have had plants of *M. bipinnatum* (from cuttings only stuck into the common border in spring) increase to more than a foot in diameter, and produce a profusion of flowers; each barometer

plants, however, never during the Winter; but what is most remarkable, their branches frequently lay upon the ground, pulled downwards by the weight of their thick crop of leaves I suppose, and in that situation become radiant, by throwing out little roots from about the base of the old leaves; a character they have not the least propensity to when kept in a pot; but such luxuriant plants nearly produce perfect food, "so much do local circumstances affect and alter the real permanent and diffusive gathering characters of vegetables," which I have elsewhere remarked*, and which Mr. Miller so often mentioned in this Essay, notices under the article *Cyanodora*, in the fourth edition of his Dictionary, by saying, "most plants which propagate themselves so much by roots, become barren of seeds, especially if their roots have full liberty to extend."

BUT *MUSCIVORACINOSA* thrives best in Winter, in a dry, light, dry greenhouse, not over-stocked with plants, especially such as cast watery vapours to waste by curling their leaves, &c. The house should have proper fires which should be gently worked in cold, and in damp weather, and the plants should not be placed too near each other,

* Essay on *Taxodioides*, by John Miller, M.D. p. 14.
Amongst a few little typographical errors which have filled their way into the historical part of this Essay, is, in several of the copies, in page 22, a supposed quotation from Parlatius.—The printed comma, and words, "*Ap. P.*" should be corrected—

they

they should have as much free air admitted to them as possible, when the weather is dry and favourable, and be watered only sparingly in cold weather; if they have as much water given them as will keep their leaves from becoming flaccid, it will be quite sufficient, either in the Winter or any other season; and it is hardly necessary to observe, that the woody sorts require a greater quantity of water than the fleshy and more succulent kinds. The fine and rare also formed species, such as *figularia* (figer chap) *schizum* (cat chap) &c. which are capable of holding water in their hearts or centers, should not in dull cold weather be watered over their tops, but it should suddenly cause them to rot, which I have sometimes known happen to those fine sorts, from an imprudent watering over their heads.

In the Summer season, that is, from about May to September, (as the season happens to prove,) all the sorts thrive by far the best in the open air, in a sheltered, warm, and sunny situation, watered no more than is just necessary to preserve their leaves from shrivelling, which I believe is a better direction, than saying watered twice or three times a week, for that with inexperienced people might lead to error, as it is very improbable all situations should require exactly the same quantity of water, or that the plants of all collections, or even all the plants of the same collection, should be put in pots of the same size; and it is sufficiently obvious, that the earth in a small pot will dry faster than that in a

large

large ones, and consequently require either a more frequent, or more liberal watering.

THE generality of MESSEMBRYANTHEMA are best planted in small pots, not larger than what Gardeners know by the name of thirty-two's; they should be filled with a light, sandy, unmanured soil, that will not hard.

THE smaller sorts, like *maroccan* (soft) *saciforme* (nut-shaped) &c. thrive best in lesser pots, somewhat like what the Gardeners call sixty's.

MESSEMBRYANTHEMA, when rightly managed, are subject to very few diseases or complaints: in the house, they are sometimes, but not often, attacked by the little *Acarus*, so well known to all Horticulturists by the name of the red spider, which is a most formidable enemy to such tender exotics as are not adapted into the open air in Summer.

THEY are subject sometimes to the attack of aphides of several species, at which time Ants are seen busily climbing about them, either in quest of the aphides themselves, or in search of that sweet liquor, (so attractive to other insects,) which they are known to exude. The Ants do us harm to the plants, unless by excessive and confused numbers they prevent their free perspiration.

I HAVE once or twice seen some of the sorts eaten by Slugs and Snails, and once only observed the foliage and parts of fructification of *Scalpitum*, (graver larvæ) most copiously devoured by the larvae of the common white butterfly, *Papilio Brassicae* Linn.

When kept too wet and cold, all the species are subject to rot and canker.

ALL the perennial and shrubby sorts may be propagated and increased very readily, in a flow either from seed or cuttings, not covered by bell glasses. The seed, whether foreign, or ripened in England, (but a great many sorts have not yet flowered, much less ripened their seeds in this country) should be sown as soon as procured (unless in the very depth of Winter) in the poor light sandy soil, recommended for the old plants, kept damp, but not wet, by occasional waterings, its germination will be much assisted and forwarded by the warmth of a gentle hot bed of tanner's bark, (which if not at hand, it will do without.)

THE different species require different lengths of time to vegetate, and all remain a long time in the feed bed. When the young plants appear, they should have rather more water and air given, until they have got four or five leaves, by which time they will be large enough to transplant into the smallest sized pots that are to be got, filled with the same kind of earth, and kept in the same gentle hot bed,

bed, until they have got fresh roots, and begun to grow again, when they should be gradually hardened to bear the open air, if it is in the Summer season ; if not, to be placed near the old plants in the greenhouse, they should have larger pots given them, when they have filled the small ones with their roots ; after which they acquire only the same treatment as the old plants, and will flower when of a proper size.

When raised from cuttings, the shoots need not be large, and the youngest are the best ; they should be divested of a few of the old leaves, and if very succulent, laid in a dry shady place from one to twenty-four hours, to heal their wounds, (according to their degree of succulentness) after which they should be planted in the same kind of soil as is mentioned above, with the earth pressed close to them, and very sparingly watered when dry, and kept shaded from the strong beams of the sun until they have struck root, but not covered by a hand glass ; for the close and confined air so necessary to the welfare of some kind of plants in the cutting state, might prove fatal to the succulent nature of a *WILBERTANTHEMUM*. * The striking of the cuttings will be greatly accelerated, if they are plunged into a gentle hot-bed ; but most of the sorts will succeed very well without that genial assistance, if kept in

* I have seen the seedling stems shaded well when covered with a glass, but they are more subject to mould and rot, than those which are not covered.

the house; and a great many of the sorts will do extremely well, if planted in the open border in the Summer season, in the most careful manner, if they are gently watered when dry.

MAY is the most favourable season for striking them; but I have seen almost all the sorts struck, even without the assistance of a hot-bed, at almost all seasons of the year, in a very moderate heat; of so kindly a nature are these manageable plants!

THE different sorts require different spaces of time to form roots in: some strike in ten days, some take a fortnight, and some require a month or six weeks; but I once had a cutting of *M. caudifolius* (thick leaved) which is a creeping sort, strike or protrude roots through the outward bark in 24 hours after planting: it was that kind of a cutting, which although strictly destitute of the least visible fibres at the time of planting, was in the most favourable disposition for forming them, and might have done so of its own accord, and as it grew upon its parent plant, had it existed there a fortnight longer, it was planted as soon as detached from its parent, by the side of a pine apple pot, in the very warm tan bed of a good stove, in one of the hottest days of August.

THE annual and biennial species are raised from seeds only, treated in the same manner as the seeds of the perennial kinds; if they are watered too freely, although they grow very luxuriant, and make a fine

for appearance, they rarely produce perfect seeds ;* to a few plants of each sort should be very much thinned in their growth, by keeping them in small pots, exceeding dry ; and perhaps those thinned ones would be best kept in the house, lest the dews alone should make them grow too luxuriant to ripen seed, for it is essential that good seed should be saved from them every year, as they are not to be perpetuated from cuttings like the perennial sorts by any art I am acquainted with ; therefore it is absolutely necessary to make some plants of each species to ripen good seeds, by thinning them as above.

* For my further remarks on this subject, see Dr. Aitken's Essay on Temperatures, p. 14.

CHAPTER X.

ANNUAL MESSENYANTHEMA NOT TO BE RAISED FROM CUTTINGS, WITH SHORT REMARK ON THE NATURE OF ANNUAL PLANTS.

ALTHOUGH the annual sorts called chrysanthemum [common icopant] and pensilivatum [jagged leaved ice plant] are not to be propagated from cuttings; yet cuttings of them treated in the usual way will not only remain alive many weeks, after they are detached from the parent plant; but absolutely perfect flowers, and sometimes seeds after that time.

Were they are not to be increased from cuttings when the whole order they belong to roots so freely that way, is extremely difficult to conceive; we know that nature has taken abundant care to multiply and differentiate her vegetable productions; and we also know that she has in a great measure limited the extent of that fecundity,—we know too, that plants remarkable for any great increase by roots as beaver herb (*Tussilago Farfara*) and others, are often as remarkable for the sterility of their seeds, * and we also know that annual plants remarkable for any particular profusion of seeds, are often of very short duration, and incapable of being increased by any

* See my remarks on this subject in Dr. Allen's Essay on *Terminations*, p. 14.

other

other means; but although we know all these things from observation and experience, we likewise know from the same experience that the law is not a general one; an instance of its not being so, is the *Sempervivum thellatum*, an annual plant first accurately described in the excellent Transactions of the Linnean Society, vol. L. p. 251. it is a very free feeding plant; and although an annual, I have struck it repeatedly from cuttings with the greatest facility.

CHAPTER XL.

YOUNG, REGULAR AND MODERATE SIZED MELISSANTHINA, MAKE A BETTER APPEARANCE THAN OLD IRREGULAR PLANTS.—SUPPOSED TO THRIVE BEST WHEN PLACED TOGETHER IN NUMBER, AND TENDED WITH OTHER PLANTS.—REASONS FOR SUCH SUPPOSITIONS.

SMALL young MELISSANTHINA make a better and more regular appearance than old rambling plants, so they should occasionally be renewed from cuttings, or fixed as above directed; and when they are in the open air in the Summer season they should not be permitted to root through their pots, which they are apt to do, and which causes them to grow very luxuriant and irregular, their straggling branches should be pruned away occasionally, for they look best when their shoots are kept long and neat, and have a much finer effect when arranged all together than when they are intermixed with other plants, nay, I am inclined to think they even thrive better when kept all together, than when dispersed among a collection of plants, particularly when kept in the house, and for two reasons, the first perhaps more substantial than the last.

THE first is, the moist and heterogeneous air, that abundantly exudes from the leaves of plants

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confined

confined in a conservatory, is doubtless in part absorbed by the succulent *MESEMBRYANTHEMA* adjoining them, to their great prejudice.

The second reason is founded on the nature of the absorbent vessels of all succulent plants, whose office are doubtless to extract and absorb from the air surrounding them, such of its humid particles coming within the sphere of their attraction, as are most nutritious, congenial, and best adapted to their nature.

It should therefore seem that the air of a conservatory situated by the vegetation of a variety of plants, should abound less with such pure nutritious and congenial particles, than one which had only succulent plants placed in it.

And it should also seem, that such attracted particles should be drawn or carried to the source of that attraction, (that is, to the attracting power,) in proportion to the sum or force of that power, and therefore one hundred *Mesembryanthema* are capable of exerting a greater stream or flow of this nutritive and congenial medium, than one plant is capable of exerting, whence it should appear that succulent plants, especially those of the same genus, ought to succeed best when placed together in numbers.

At all events, they are most conveniently supplied with the quantity of water necessary for each, when placed
placed

placed together, for when they are intermixed with other plants, they are too frequently overwatered to their great injury.—They also afford a better opportunity for the owner and his friends to contemplate their differences and great variety (when growing together,) by contrasting them with each other.

CHAPTER XII.

REMARKS ON THE NATURE OF ROOTING PLANTS, PARTICULARLY SUCкулENT ONES FROM CUTTINGS, WITH AN ACCOUNT OF SOME OF THOSE WHICH STRIKE ROOT THE SOONEST, AND FROM THE SMALLEST WHOLE OR PORTIONS, SEVERAL OF THEM FROM LEAVES ONLY, SO STRONGLY ARE THEY ENDOWED WITH THE PRINCIPLES OF LIFE!

I SHALL next make a few remarks concerning the striking of plants in general, but more especially succulent ones from cuttings; then treat about the divisions of the genus *MESSEMYANTHEMUM* into different sections, and give reasons for establishing my own; and then conclude this first part of my observations, and begin that which distinguishes the species.

THE more lax and less firm the shoots or branches of any perennial plant are, the more easily may that plant be propagated from cuttings. This I have found a maxim that admits of few exceptions.

Hence it is we find almost all the species of the genus *MESSEMYANTHEMUM* so readily increased this way, and agreeable to the maxim we also find the soft succulent species root much faster than the hard and more ligneous kinds: and that the youngest and therefore softest shoots of any woody sort strike much faster than the old and firm branches of the same plant.

And

And the same observation holds good when applied to any other succulent plants, as Aloes, Euphorbias, and Cacti, Cuscuta, and the rest of the order Scrophulariæ, of Jussieu's excellent Natural Orders.

So that one would be inclined to suppose that stronger principles of life existed in succulent plants than in ligneous ones, and that in almost all plants, these principles determined themselves very powerfully to the extremities.

For so strong is the principle of life in the extreme parts of some succulent plants, that their very leaves, when committed to the ground (in a warmth of air proportioned to the climate they belong to) strike root, and become new plants.

This is particularly observable in the operation division of the genus Cactus, (whose apparent leaves are analogous to shoots) in several species of Aloe, in many Cuscuta, and in most of the species of Cuscutodes, and I have often practised it on one species of Sedum, and that Sedum is a British plant, and perhaps the only one our island can boast, that is endowed with such extraordinary powers of life; at least, it is the only one I can at present call to mind. The Sedum I speak of, is the *Sedum dasyphyllum*, so charmingly figured in the *Flora Londonensis*, Falsicatus 3. t. 15, perhaps, *Sedum album*, if properly tried, might be found to possess similar powers.

Now are our gardens destitute of a *MIRISTICATA-TURNUM* that is capable of being raised and increased this way; for I have seen *M. foliosum* (cut clay) struck from a single leaf.

But I know of no other species that admits of propagation this way, (although some of the large leaved ones may) and I have repeatedly put a good many of the sorts to the trial.

A naked joint of *M. edule* will strike very well, although treated in the most careless manner, whether kept extremely dry, or planted as soon as cut from its parent, in a pot of wet earth.

In both ways, I have seen it repeatedly rooted, but a moderate moisture is doubtless the best.

I once knew *edule* root from such a cutting as the above, although deprived of one of the two leaves it consisted of.

M. CRASSIFOLIUM, and many other species, particularly the rampant and procumbent ones, may be struck from the extreme shoots, although they have only two leaves, which, in fact, is no more than a joint, for I have seen them struck repeatedly from such small pieces, at almost all seasons of the year, in a stove.

M. ALBUM, although a very succulent, and almost fleshy plant, (and sure to strike at last) is

as long a time in striking root from a cutting, as most *MIMULANTHEA*, especially if taken from an old plant; but if albidum is attentively observed, its steth, &c. is found to be of a very firm texture for a succulent plant, which possibly occasions its tardiness in rooting from a cutting.

Where is there a *MIMULANTHEA* of a more lax texture, and succulent nature, than that fine sort, *M. sculpsum*? and what sorts (except the reptant ones) strike so readily from cuttings?

CHAPTER XIII.

SUCCESSFUL PLANT-STEM ROOT FROM CUTTINGS
MUCH EASIER AND SWIFTER THAN WOODY
ONLS—THE NATURE OF ROOTS AND CUTTINGS,
CONSIDERED AND EXPLAINED.—REASONS WHY
SUCCEFUL PLANTS ARE EASIER PROPAGATED
FROM CUTTINGS THAN WOODY PLANTS.—
FLOWERING BRANCHES OF ALL PLANTS SUFFICI-
ENTLY TO SPRING FROM CUTTINGS.—ALL
PLANTS WEAKENED BY FLOWERING AND PRO-
DUCING SEED.—CAUSES OF SUCH ENWEAKENING.
—SEVERAL OTHER REMARKS.

WHY vegetable nature should thus permit her
succulent subjects to be increased more
readily from cuttings, than her woody, and far
more numerous tribes, I am extremely at a loss to
explain.

Her difficulties do not damp the passions of the
true naturalist; they rather have a tendency to
double his diligence, that by persevering, he may
surmount and conquer them, and then enjoy that
pleasure in reality, which before, he had only expe-
rienced by anticipation.

Roots, which by some authors have been inge-
nuously considered as branches underground, appear
on their first arising from a cutting, to be a sort of
stratification, either of that solid linear part of plants,
which

which encloses and protects their pith or marrow, or of the medullary part itself.

RADICLES appear able to protrude themselves more easily, and ramify themselves more readily, through the soft substance of a succulent plant, than through the ligneous texture of a dry and firm one.

HENCE I have been almost tempted to admit, that the rooting, or as the Gardeners term it, the striking of cuttings, might be accounted for, upon something like an innate, or latent propensity in vegetative nature, to ramify as much as possible those inner, or medullary parts of her wounded subjects, left from any casual failure of their other recovering powers, their numbers should decrease; and as this selfing principle may be supposed constantly operating, and perhaps nearly equal in all wounded or cut plants, its effects ought also to be nearly equal, and all plants, (except such annuals, and others as are remarkable for an uncommon profusion of seed, which generally debilitates them from furnishing a plentiful increase any other way, by attracting the chief flow of the vital principle upwards to the fruit, and consequently impoverishing every other part), ought to strike root from cuttings, nearly in a similar portion of time, (under similar treatment) and in all probability, a majority of them would do so, if many countervailing causes were not constantly opposing them, the chief of which causes have sometimes appeared to me, no other than the unnumberably different

fewest degrees of firmness prevailing in the structure of different vegetables ; so great is this diversity, that scarcely two plants are to be found, whose component parts are of equal density ; nay, the different parts of the same individual plant vary extremely in this particular, which is doubtless the reason why some parts of a plant are preferable to others for the purpose of propagation by cuttings ; and the young her parts are of course the parts most desirable to select, because they are more succulent, and consequently more replete with the principles of life, than the woody and firmer parts.

To surmount many other obstacles which oppose against the rooting of plants from cuttings, in addition to their different densities, which may be divided into two principal double heads ; viz. warmth and humidity, and the natural duration and fecundity of plants, of each of which I will treat separately.

Now all the countervailing causes which arise from these divisions (some or other of which are constantly opposing against the supposed propensity in nature to multiply her mutilated subjects by their separated shoots) must be counterbalanced and done away by the artificial assistance of the skillful Horticulturist, before a single cutting can be struck.

By first of warmth and moisture, no plant can be struck from cuttings, without the aid of the place

pher they are planted in is of a temperate form: what congeals to their own natural climate, for the wounds of a cutting crabs their medullary and most tender parts to be so much exposed to the action of the air as their ligneous parts; if an air too cold acts upon them, they perish that way; if an air too moist, they suffer by imbibing too much humidity, and rot or mortify at the wounded parts, which of course are the tendest, and if an air too warm is admitted to them, they surely suffer from too great a relaxation, for a warm air causes them to perish very freely, at the very time when they are the least capable of supporting a perspiration; therefore, all those things must be avoided as much as possible, and as cold an air given as is consistent with safety, for cold air will brace and prevent the cuttings from wasting the little stock of vital strength they have, (by dissipated evaporation) which they must make the best use, to furnish roots; a close air is better than an exposed one, that is, cuttings, except of succulent plants of every kind, (which do not require it) are better covered with a dry bell glass, than exposed to the action of the outward air and winds, which waste and evaporate their vital fluids: the sun, for the same reason, must not be admitted to shine upon them in their early stages, moisture they must have given, if they want it, but too much will surely rot their wounds, although in a promoting state; and too little will as surely destroy them through the other extreme, by wasting their stock of vital fluids. On the proper supply of water and warmth therefore

greatly

greatly depends the hopes the Gardener has of his cuttings, and he ought to regulate it, (as well as the closeness of his glass), partly by the nature of the plants he wishes to strike; partly by the season of the year, (but Spring is the best,) partly by the presence or absence of the sun's rays upon his cuttings, or the glass they are protected by, and partly by the degree of bottom or hot-bed warmth he supplies them with, if they are tender things. Hardy and hardy things are perhaps struck best, at least the first, in the shade, without bottom heat, as is seen in numerous instances by every Gardener.

THE covering of a glass seems favorable to woody plants, by preventing the action of the outward air upon the cuttings, which of course would flag them; it retains in the day the rising dew dissolved in air, and in the night condenses it into small irregular drops, which either adhere to its sides, or fall in gently points upon the young cuttings, to their infinite service and refreshment.

One point material to be attended to in the rooting of cuttings, and on which their welfare greatly depends, I have omitted to mention—I mean the preparation of loam used for planting cuttings.

THAT soil which is the best for succulent cuttings, is a light unmanured sandy loam, that will neither bind nor retain moisture long, there still is much
 extended

assisted by a small quantity of fire-dust, which not only lightens it, but absorbs any superfluous humidity, which, by hovering about the cuttings, might rot them. Others recommend a small quantity of broken garden pots, broken pottery small, to answer the same end, and of this number I reckon myself, I was first led to it by observing that all plants, and more especially succulent ones, not only rooted sooner when in contact with the side of their pot, than when placed in its center, but manifested themselves along the side far more fast, until they had acquired strength to extend their fibres into the little world of earth about them. Cuttings, rooted in the center of a pot, direct their fibres horizontally until they reach the sides, close along which their roots greatly extend, and desert the central mould, which is probably liable to greater extremes of wet and drought, than the favourite pieces and sides of pots, their radicles are so much crumpled up.

For when a pot of cuttings is in want of water, it is of course drier than it ought to be; and as soon as watered, it is also of course somewhat wetter than is absolutely necessary to the welfare of the cuttings, especially in the centre.

Whether the nature of the inner side or superficies of a garden-pot, filled with mould, and planted with cuttings, cautiously watered, has a very gradual tendency to absorb as much humidity as renders

ders it cool and moist, but never wet, which is probably the reason why the suckers of plants prefer being in contact with it, to being in the center of the earth it is filled with, which as just noticed, is subject to greater extremes of moisture and drought, besides, any superfluous humidity lingering about the wounds of the cuttings themselves, is much more easily dissipated, or attracted by the absorbing nature of the soil, than by the earth in its center.

Some think the properest earth for woody cuttings is a lightish loam, that will close pretty tight, but not hard about them, which of course will retain moisture longer than a light sandy soil, or than that kind of soil which Florists prefer; and the less cuttings have occasion for water after they are planted, the better; and the closer woody plants bear covering with glasses the better, which they cannot do, if too often watered: for water, although it keeps their leaves green, has at the same time a wonderful tendency to rot their wounds.

Some have written expressly upon this part of the subject, and asserted that they have found a certain species, so powerful as to preserve the wounds of cuttings so well, as to enable branches, which only a bud, to take root: and this species, which had the misfortune to be forgot almost as soon as known, was some kind of a wash or varnish, done over the wounded part of a cutting, for the only purpose of excluding the outward air, and consequently moisture, which,

which, if it did, would go well nigh keeping imprisoned the very radicles that cuttings are so much wanted to propagate—but to return,

The natural duration or fecundity of plants are circumstances very greatly dependant on the different determinations of their vital powers, which are usually called *ages*.

Stems plants determine all their choicest juices to the seeds, which they perfect in such quantities as entirely exhaust them, they are therefore annual or biennial plants.

Orchers determine their most vigorous juices towards the roots and lower parts, these are the powerful creeping rooted plants, which are rarely remarkable for seed, nor is it necessary they should, for were it so, their numbers would exterminate most useful things; therefore nature ever with, never lurch of her choicest gifts, denies much seed to creeping plants.

Orchers dispose their vital juices in regular order through all their parts, and these are the arborescent and perennial herbaceous plants, that form the bulk of the vegetable world.

A nearer consideration of these things appears to throw a great light upon the probability of rooting any particular plant from cuttings.

To

To prove rightly of this, we must recollect that a cutting properly treated, roots in a time proportioned to the quantity of vital strength it contains in the frailest bulk, and the degree of resistance its earliest radicles meet with from the hardness of its outer parts.

Annual plants have the most life in their shoots which have not exhausted themselves by flowering, therefore if they are ever to be struck from cuttings, it must be previous to flowering.

All creeping rooted plants strike well from their lower parts, because they abound in vital sap.

And suberfuous and herbaceous plants, not remarkable for powerful roots, strike best from the young shoots, because they abound most in the principles of life, and because their tenderer parts make less resistance to the careful tendency nature willing in them has to produce radicles, from their wounded parts.

Strictures remarks corroborating this doctrine might be adduced, but they would swell a set of " observations on vegetative systema," already too tedious, to an immoderate length.—I will only mention a few.

The shoots of most biennial plants may be struck before they have determined their vital power to the formation of flowers, but rarely after, when

when their "powers, which should have constructed roots and penetrated them, have been exhausted in the formation of flowers.

So great is nature's tendency to multiply some things this way, (i. e. from food,) that cuttings planted with flower buds on them will live while they have expended them and then die, perhaps after having perfected, even in that state, a little food, after which they rarely live, for this reason the skillful Gardener deprives his cuttings of all flower buds, and when he can, selects such branches as are destitute of flowers, and at that season of the year when the parent plant is not exhausted by blooming,—wallflowers, (*Chelidonium cheiri*, a biennial and a British plant,) are usually struck from slips just after the flowering season,—but they strike much better in the Autumn when they have recovered from the weakness occasioned by the production of flowers,—a dozen cuttings in twenty will strike if planted at the foot of a wall after the earth is thoroughly saturated with autumnal rains, without any further trouble or protection, and resist the cold of a severe Winter.

All plants, all parts or shoots of plants, say the individuals of the animal world itself, are materially stronger, after having relied or obtained nutriment from the mysterious and enervating processes of reproduction, than they are immediately subsequent to them.

There is an observation in some of the writings of the great Languens, that annual plants (which I have had determine all their vital powers to the seed,) will often stand the rigours of a Winter, if they come up too late for flowering in the Autumn, but if they flower before that season, they surely die, and this is seen by every Gardener.

Some annuals and biennials if much stunted by growing on a dry wall, will often survive two or more Winters, because in such situations, they providently reserve a share of their Loney vital sap to form side shoots, and do not determine it wholly to the flowers, and these side shoots being extremely short, and slow of growth, are succeeded by others before they perish by freezing,—and in this way the herb continues much longer than it could do in any other soil.

CHAPTER XIV.

HOW MISMERYANTHINA ARE ORDERED IN THE NATURAL ORDER OF LINNÆUS AND JUSSEU.—AN ACCOUNT OF THE DIVISION OF THE GENUS INTO SECTIONS BY LINNÆUS—THE AUTHOR'S OBJECTION TO IT.—REASONS FOR SUCH DIVISION.—COMPARISON OF THESE NEW METHODS OF ORDERING THE GENUS INTO CONVENIENT SECTIONS.—THE LAST OF WHICH IS ONLY INSUFFICIENTLY ABSOLUTE TO BE USED.—REASONS FOR REJECTING THE TWO FIRST AND PREFERRING THE THIRD.

IN Linnæus's fragments of several orders of plants (as he thought proper to call them,) the genus MISMERYANTHINUM is arranged under his thirtieth order, denominated "Succulenta," (placulent,) along with *Cactus*, *Sarcocolla*, and many others, which Mr. de Jussieu, in his excellent natural order has thought proper to separate from MISMERYANTHINUM.

THE order in which he places MISMERYANTHINUM, he calls *Ericoides*, it forms two divisions, the second of which consists of two genera only, viz. *Meibomyanthemum* and *Tetragonia*, which forms the only genus that differing author has thought MISMERYANTHINUM closely allied to—so unlike those of other plants are its characters !

As *MESEMANTHEMUM* form an exceedingly numerous family of plants, and require divisions and subdivisions to render the investigation of the species certain and easy, they have accordingly been divided into different sections or groups by Linnæus and others; but as those divisions have appeared to me in one respect or other incapable of answering the purposes intended in so complete a manner as I could wish, that is, inclusively and exclusively, by including *absolutely*, all the species arranged under them, and by as *absolutely*, excluding all others; I have ventured to lay them aside, and attempted to construct others, upon new principles, drawn entirely from actual observation and a comparison of the living plants with each other, which I humbly trust will at once bear the test of examination, be more agreeable to nature, and more useful in facilitating the investigation of the different species, than those however excellent, which are already in use. They were first formed for my own private service, and underwent no much pleasure before I thought of their publication.

Before I make mention of my own divisions, I will point out some of the imperfections of those used by Linnæus for the genus *MESEMANTHEMUM*, which are simple, and depend upon the colour of the corolla, " viz. " *alba corolla*" (white flowered,) "*rubicunda corolla*" (reddish flowered,) and "*lutea corolla*," (yellow flowered.)

To these three divisions Mr. Aiton in his "Hortus Kewensis" added a fourth, viz. "violiflora corollis," (green flowered.)

And Professor Cuvier in his enlarged edition of the *Systema Nature* of Linnaeus & lately published, arranges one species (*M. capillare*;) under a fifth division, viz. "incertae tribus" (of uncertain tribes.)

Linnaeus in his own immortal *Species plantarum*, § also tells us that *MONOTRYCHNUM* admits of being divided into sections after the two following ways, which however, he never adopted,—

First into,

"*ANTRA*, nodiflorum, capicera chelidonium."

"*ACANTHA*, ringens, bellidiflorum, ligulariflorum,

"*affidum*, reflexum, calamiforme, diffuse dol-
" biforme."

"*LATA CAULE MIXTULO*: tripollum, tortuosum,

"*expansum*, locum, coccinellatum, aculeiforme,

"*scide*, forficatum, filamentosum, crulliforme, te-

"*radiforme*, pomariolum."

† Vol. II. p. 496. ‡ Tab. II. p. 496. § Page 300. note.

- " *FERTICOSA* caule lignoso duro, subpae. 4, 5,
 " 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 23,
 " 24, 30, 31, 32, 36, 38, 42."

TETRACORD divides some of them into,

- " *ASTERISFOLIA* nodiflorum, chrysalinum,
 " tripodium, pagodiforme."

- " *LATISFOLIA* chrysalinum, tripodium, expan-
 " sum, tortuosum, pomoidium."

- " *TETRASTRA* quicquidiflorum, nodiflorum, ter-
 " trosum."

- " *DECALOMA*, linguiforme, pomoidium, pa-
 " giforme."

Such are the methods hitherto pointed out for dividing the numerous species of *MUSCIVORAC-
 TACEAE* into convenient and natural sections.

THE first and I may say the only one which has been used in common, is that regulated by the colour of the corolla. The divisions of it at the time LINNÆUS formed them were nearly absolute, but not entirely so, (which ought to be the case with all primary divisions,) for he has his *M. nodiflorum* flavo phæniceo, and *M. nodiflorum* flavo frutesco, not only under the same section, but under the same species,—*tortuosum* & *expansum* he arranges with
 the

the yellow flowered species, which Mr. Aron and professor Gussén have added to the white, leaves are the colour of the two last mentioned plants, they fall under neither the white nor yellow section; they are in truth between both.

Mr. Aron places *M. echinatum album* (white echinated,) and *M. echinatum luteum* (yellow echinated,) both under the section called "*luteis corollis*."

The harshness of these incongruities, although extremely trifling, it is my wish to avoid.

More instances might be adduced if either necessity or occasion required them.

As to the other divisions pointed out by Linnaeus and mentioned above, but which he did not make use of, they must remain as they were, for as they never were followed, there is no necessity to comment upon them.

I now come to speak of my own methods of dividing the very numerous species of *MESEMANTHEMUM* into natural and convenient sections.

By three ways, three new ways, each of which possess three primary sections, I have attempted to do this; the last of which is the one the numerous plants described in this observation, are regulated and divided by.

THE FIRST WAY WAS INTO SUCH AS HAD

I. ALTERNATE LEAVES.

II. OPPOSITE, DISTINCT LEAVES.

III. CORDATE, YAGINATE, OR PINNULATE LEAVES.

THE SECOND WAY WAS INTO SUCH AS WERE

I. ERECT.

II. PROCEMBENT, OR DECUMBENT.

III. SPRENT.

THE THIRD AND LAST WAY IS SO OBVIOUS AND SO EASY ONE : IT IS THE WAY WHICH THE NUMEROUS PLANTS DESCRIBED IN THEIR OBSERVATIONS, ARE REGULATED AND DIVIDED BY, AND, LIKE THE OTHERS, CONSISTS OF THREE PRIMARY DIVISIONS, TO WHICH, HOWEVER, I WAS OBLIGED TO ADD A SORT OF SUPPLEMENTARY ONE, *VIZ.* " **INCERTA** " " **TRISTIS**."

THE PRIMARY DIVISIONS OF THIS THIRD WAY ARE INTO SUCH AS HAVE

I. **ANNUAL ROOTS** (**ANNUA.**)

II. **BIENNIAL ROOTS** (**BIENNIA.**)

III. **PERENNIAL ROOTS** (**PERENNIA.**)

IV. **INCERTA TRISTIS** (OF UNCERTAIN TRISTIS.)

THE LAST DIVISION I HAVE ALREADY SAID, I WAS OBLIGED TO ADD TO THE OTHER THREE, WHICH ARE NATURAL AND EASY, AND I SHOULD HAVE RENDERED IT (THE LAST) UNKIND, IF I HAD EVER POSSESSED THE OPPORTUNITY OF EXAMINING THE PLANTS PLACED UNDER IT, BY REDUCING THEM TO ONE

of

of the three former sections, but perhaps chiefly to the third; nor can I avoid adding many of the plants it consists of, have lately been, and perhaps yet are, cultivated by Mr. Lee, of Hammer-smith.

The third section I found pretty aptly divided itself into five convenient subdivisions, viz. into

I. *PERENNIA SCAPIFLUA.*

II. *PERENNIA TERRESTRIS POLYCHA.*

III. *PERENNIA CAULESCENS POLIS FLAVIS.*

IV. *PERENNIA DIFFUSCENTIA POLIS SUB-
TUS ROTUNDAT.*

V. *PERENNIA DIFFUSCENTIA POLIS TRI-
ANGULAR.*

I found the first of my three methods of dividing *MINIMENTHENA* into sections incapable of answering my purpose so strictly as I wished, particularly in the third division, called

"*CONJUGATE VAGINATE, OR BIFOLIATE LEAV'D.*"

I found no end to the character; almost all *MINIMENTHENA* have it in a greater or a less degree, therefore I laid it aside, and built my second method, which had the misfortune to please me no better than the first. Its failure, like the first, too, I feared to be in its third section, called

"*UPRIGHT.*"

For I found it included the female species, as well as the upright double ones.

LEEDS,

because, I might have amended it in this particular, by adding another section to it, for the same-like sort, but I did not like its first division, "apertum," for it is confused undulate and uncertain, by *M. bispidum* (*bispid*) which, if planted in the open air, not only trails, but throws out radicles from many of its joints, but when kept in a pot, it is nearly upright, and has not the least propensity to emit roots from the joints.

What I wanted, was a set of primary divisions at once absolute and natural, those I much sought for, by viewing and contrasting the living plants in large groups, and was at length fortunate enough to hit upon those I have adopted, which, however, in a few instances, (which affect the *subdivisum* only) are not, I am afraid, altogether so positive as I could wish, that is, a few of the plants arranged under the subdivisions.

IV. *ANTHEPHTASIA FOLIA RECTA ROTUNDPARTIA*; and

V. *ANTHEPHTASIA FOLIA RECTANGULATA* do not fall under them so absolutely and distinctly as I endeavoured to make them; for the rounded convexity of the leaf angles (which, perhaps, would have been better expressed by the words, *folia foliis convexis*, than by the term, "*folia sub-recta retundata*,"") is a circumstance that, in a few instances, approaches the characters of the *subdivisum*.

"*FOLIA RECTA TRIANGULARIA*,"

from the rounded leaf part of the leaves affording

too abrupt a degree, of convexity, in which case, any leaf, especially towards the apex, puts on an appearance approaching very nearly to *subtripinnata*.

My divisions and subdivisions, however, upon the whole, are more positive, than any I have yet seen; the primary sections are absolutely so; but the last "Perennia" would not have been certain without joining in it, the *Stenolepis*, with the caulicose shrubby species, a junction that few would have formed. This I was obliged to do, for I found the *Stenolepis* species were, in fact, of an undershrubby nature, and acquired by age considerable stems, as I have frequently perceived in aged plants of *M. subulata*ides, (suck-like) *M. californica*, (quill-formed) *M. bellidiflora*, (daisy-flowered) *M. alba*, (white) *M. curvum*, (dog chap) *M. maritimum*, (mossy chap) *M. dolabriforme*, (batchet leaved) *M. difforme*, (deformed) and others.

CHAPTER XV.

APPLICABLE SPECIFIC NAMES FOR MANY NEW PLANTS, IN ANY SENSE ALREADY INDOLENT AND EXTENSIVE, BUT NOT TO CONFLICT—CONCISE ACCOUNT AND VIEW OF THE NUMBERS OF MAMMISTANTHERA DESCRIBED BY THE MOST EMINENT OF THOSE WHO HAVE WROTE ON THIS SUBJECT, FROM THE DAYS OF LEADLEY TO THOSE OF LINNÆUS,—SLIGHT ESTIMATION OF THE SPECIES DESCRIBED IN THEIR OBSERVATIONS, AND OTHER PARTICULARS.

THE names I have thought proper to distinguish the new species by, (and those species are pretty numerous,) I hardly trust will be found as applicable as the natural difficulties attending the subject, when properly considered, will be found to admit; but I cannot help fearing, that those ending in *ævis*, as *glaucoïdes*, *tubulatoïdes*, &c. will find a more difficult acceptance than any of the rest; and the only things I have to urge in their defence are, that the different plants to which they are applied, presented no other terms to my mind of the least aptness, and that I have found them exceedingly serviceable, in pointing out to me the most difficult plants, in the genus I have engaged to describe.

It is no easy thing to find room for very characteristic epithets for some dozens of new plants, in a genus that is at once completely *fulvum* and *extensive*.

Some of Mr. Lee's names, I mean the names he^d fills his plants by, were so obviously inaccurate, that I did not continue them, even to my specimens, before I mediated the confirmation of their observations.

For instance, the name *fulvolum*, (saccolat) when all the other species are *saccolat*, and a third of them more so than the plant in question, is fairly rendered left obscure and ambiguous by the term, *purpureo-croceum* [from purple to saffron coloured;] for it is a term that at once points the plant out from all the species I have seen flower; I know no other sort, whose flower is at first of the brightest purple, and that quickly fades to a pale saffron. Such is the case with *purpureo-croceum*, which term alone (when the plant blooms) is sufficient to distinguish it from all its congeners I have seen flower.

Two species of *SEMPERPARVIFLORUM*, which I have enumerated in the following pages, amount to upwards of 130, exclusive of those under the division "*laevigata*," and all varieties; a number, which few would have supposed to exist in nature, a number, which six months ago, I had not the most distant prospect of contemplating.

I will just take a view of the numbers different authors have furnished up, and begin with Bradley, who was the first who took any particular care.

(22
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(as far as I know at least,) in figuring and describing *MESSENYANTHUM*.

BREASTLY in his *Historia* }
Plantarum succulentarum, published in 1727. } (Fifty species, or ^{perhaps} ~~species~~ he mentions in his placing and gardening. *)

DILLON in his *Montana* } Fifty-five species according to Dr. Feltner, †
Etiologia, published in 1732, describes } and 33 according to Mr. Curtin. ‡

MILLER in his *Gardener's* }
Dictionary, Ed. 3. published in 1759. § describes } Forty-seven species.

LINNEUS in *Species Plantarum*, published in 1754, describes } Forty-five species.

THE LONDON SOCIETY, in their useful translation of the *Systema Vegetabilium* of Lin. published in 1753, enumerates } Fifty-one species.

* Breastly's *Planting and Gardening*, p. 230, printed in 1724, which is three years before the publication of the last decade.

† *Program of Botany in England*, &c. &c. p. 172.

‡ I have not got Miller's last and eighth edition, which may perhaps mention more.

§ *See* *Mag.* p. 11.

ARROW in his Hortus Kew. }
 1785, published in 1789 } Seventy species.
 described 70 species, 21
 of which were new }

GUSSET, in the 2d tom. }
 of Syn. Nat. published } Seventy-two species.
 in 1791, describes }

And

THOMSON, observations } One hundred and thirty
 enumerates } two species.

The reason why the numbers of *Linnaeus* appear fewer than those of *DeCandolle* and *Miller*, is, because he reduced a great many of the plants which those two ingenious and practical authors considered as specifically different, to mere varieties.

For my own part, I am sufficiently convinced that most of the leading varieties, both of *Spergularia plantaginifolia*, and of the *Hortus Kewensis*, are very distinct species, such for instance as, *ringens* (tall shrub) *barbata* *humilis* *major*, (great dwarf bearded) and *barbata* *humilis* *minor*, (small dwarf bearded) and *detoides* *densa* *non* *maritima*, (limpish, hooked delta leaved) and *linguiformis* *lanceolata*, (broad tongue leaved).

I maintain all these to be very distinct plants, particularly the two last mentioned facts, which I have more than once found come perfectly true

in

in every respect, when raised from seeds which had opened on a shelf that held about 40 species, arranged together.

Mr. MILLET, who was 60 years a true practical Botanist, and a man of sound judgment, (but his opinion on these points have been too little attended to) ranked the above-mentioned *monocotyledonous* as plants specifically different; the two left of which, if I recollect right, he called *catolium* (then growing) and *locidum* (flouring). The first name I have retained in these observations.

2

CHAPTER

CHAPTER XVI.

REMARKS ON CERTAIN PECULIARITIES OBSERVABLE IN SUCULENT PLANTS,—A GLAUCCOUS COLOUR COMMON,—A GREEN ONE MORE RARE,—SOMETIMES TINGED WITH A PURPLE COLOUR TOWARDS THE EXTREMITIES,—THE CAUSES OF SUCH COLOURS,—OTHER PECULIARITIES OF SUCULENT PLANTS,—SOME OF THEM CAPABLE OF BEING USED AS ARTICLES OF FOOD, OR MEDICINE, AND PERHAPS THE ARTS,—SUCULENT PLANTS NEED COMPARATIVELY LITTLE,—OTHER REMARKS.

A FEW more remarks, relative to the peculiarities of *MESEMBRYANTHEA*, and other succulent plants, which I have neglected to insert in a more suitable place, I shall beg leave to insert here, they are of a general nature.

A GLAUCCOUS white colour, of greater or less density, is the predominant colour of succulent plants, comparatively few are entirely destitute of it.

Why this colour should prevail so much with them, I am at a loss to furnish, and have, at present, neither leisure nor room for any more conjectured ideas.

BUT there are succulent plants, of different shades of green, some of them of the finest and deepest and most lucid tints, as, *M. viride* (green) and all the *Nagelssonia* species.

Few succulent plants have coloured leaves, that is, of a red, or purple, or other tinge.

The leaves and shoots of *Crassulæ*, when pinched by drought or starved with cold, acquire a purplish tinge.

And some *Cotyledons*, from the same causes, put on the same appearance.

And I have seen *MESSELYANTHEMUM acini-forme*, with the leaves beautifully adorned, with a bright purple coloured margin, but it was only the temporary effect of either cold or drought. The young shoots of many species of *MESSELYANTHEMUM* sometimes assume a purplish tinge, some sort put on a brownish one, and some for a while a colour inclining to yellow, but such transitory shades arise merely from the effect of an air too cold (especially after having been used to heat) upon the young tender branches, which harden and possibly contract their pores or orifices; and causes them to deny absorption to the purple coloured rays of light; but when exposed to warmth again, their pores relax themselves, and draw the purple tinge which were before exhibited on, and reflected from their surfaces.

Succulent plants are very rarely hairy, villous, or pubescent; sometimes echinate and hispid, with minute prickles; frequently more or less spiny, and
sometimes

sometimes dreadfully so, often verrucose or tuberculated; and in general produce but little food.

These circumstances are observable in *Portulacca pilosa*, (hairy) *Scutiperovum villosum*, (villous) *MISMEPTANTHEMUM*, pubescens, (pubescent) *M. echinatum* (echinated) and *M. hispídum*, (hispid).

THE ALGAE are most of them more or less (spiny, and many *Cisti*, dreadfully so, and *MISMEPTANTHEMUM* *spinosum*, (spiny) is remarkable for its trichotomous thorn.

THERE are several species of *Aloe*, which are verrucose and tuberculated, and the leaves of *perismertanthemum tuberculatum*, (tuberculated) of Miller, which is the *rostratum*, (beak'd) of Linnaeus, are tuberculated on the keel, according to Miller's description of that plant.

Few indeed are the succulent plants which have been used as food for man; but several of them are medicinal, and some afford a kind of thread, which has been industriously converted by the natives of America into various useful domestic purposes.

I can at present call to mind few truly succulent plants which I have *seen* used in substance as food, except I say *Portulacca oleracea*, (oleaceous) which although fleshy and belonging to a succulent genus of plants, is not sufficiently so, to be called a succulent plant itself; it is used in salad.

Two fruit of various Casti are esteemed fine, some of them delicious, resembling little pine apples in shape, and are greatly relished in the warm parts of the world.

. Also *Bromelia aurant*, the pine apple itself, that prince of fruits, is a plant of a very succulent nature, as appears from its crown being able to exist without water, and out of the ground above half a year, after it is detached from its parent.

The fruit of that fine looking plant *MYRTASTRUM edule* is said to be relished by the Hottentots, whence its name, Hottentot Fig, or Fig of the Hottentots, and *Ficus Hottentotorum*.

In the march of Lieut. Patterson into Africa, we are told that the Hottentots are exceedingly fond of some species of *Meibomiaanthemum* as food; but he does not specify the sorts. It is probable some of them might be used as a wholesome food in this country; the different species affect the organs of taste in a different manner; the juicy thick leaved sorts have a watery herbaceous taste, which appears slightly astringent and cooling; some are rather saline, but not unpleasantly so, as reflexum, of these observations; and others are harsh, tough, and very stringant, as *discrepifolium*, of these observations.

Some species of Aloe, particularly *Aloe ferox*,* (*ferox*) which Linnaeus joins with others as varieties of his *perfoliata* (*perfoliata*) afford the drug known so well by the name of *aloë*; it is the chief of the ingredients of which Anderfon's celebrated *Scotch Pills* are composed.

(Contd.)

Sarcos *acm.*, a succulent and a British plant, has also been allowed to possess some medical virtues, and is accordingly figured by Dr. Woodville in the second part of his *Medical Botany*, Pl. 231.

And the *Agave Americana*, commonly called the Great American Aloe, has had the fibres of its leaves manufactured into useful things.

I know of no very succulent plant that feeds abundantly, their principles of life relying too much in the branches and leaves; many sorts only produce flowers at very distant periods of time, which are not always followed by perfect and productive seeds, as several species of Aloe, and Agave; a very few are viviparous, as *Agave vivipara*, and most of them require a length of time to arrive at maturity, when raised from seed; some of the Aloes and Agaves are so extremely tardy in this respect, as to require from ten to twenty, and in some cases an

* *Aloe perfoliata ferox*, Woodville's *Medical Bot.* Pl. 202, where the reader will see a full account of the medical and household uses of this Aloe.

hundred years, in bring them to maturity from seed; in this country at least, such is the will of nature! and such the regulation of her bounties!

In some of these vesperal plants bear a distant analogy to the animal world, the individuals of which when prolific, are rarely remarkable for length of life,—and vice versa,—take for example the eagle and the vren? the elephant and the dog!

ANNUAL plants, as grasshills, feed abundantly, and are of short duration!

TREES, as the oak, feed comparatively little, and endure through the crash of ages!

BUT is it not time to put a finish to these rambling remarks?

For the sole purpose of avoiding at once the impropriety of copying unexamined synonymy, and the mistakes and errors too frequently arising from a hasty or formal examination of the books of a friend; I have referred the plants described in the foregoing pages, to the works of such authors only, as are in my own possession; whose synonymy I have examined again and again, and am pretty well convinced of their accuracy.

THIS may depreciate the value of my observations in the minds of such as like a long chain

chain of synonyms.—To such I would say synonyms are excellent if rightly developed; but far worse than total silence if wrongly applied; and what can I do, who have neither the figures of Bradley nor Dillenius to guide me through the dark. Nor have I one *Botanical* friend to assist me, either in the construction or revision of my style.

THE plants not referred to the *Systema Naturae* of Linnaeus lately published and enlarged by Professor Gmelin, are supposed not to be in it, and consequently new species, except only, *MUSMONT-ANTHEMIS acinaciformis*, (*Synonim* formed;) and *Hel. aurea*, (*golden*;) which although old plants, by some strange and unaccountable oversight, do not make their appearance, either in Gmel. *Syst. Nat.* or the *Systema Vegetabilium*, as translated by the Litchfield Society.

Seven new plants I have marked with an asterisk in the margin, that the eye may be enabled to investigate them with greater facility.

If any one should meet with a new, an ambiguous, or an uncertain *MUSMONTANTHEMUM*, and should be desirous of knowing, whether it is described in my *OBSERVATIONS*, or not, I take the liberty of requesting such an one to transmit me either a specimen, a description, or a drawing of the plant, and he shall immediately be made acquainted with

my best opinion on the subject; such communications would gratify me in the extreme, and shall be thankfully acknowledged, if the Public should ever flatter me, by calling for a second edition of my *encheiridion*; an encouragement that might prompt me to extend them to somewhat like a general account of succulent plants.

END OF PART THE FIRST.

OBSERVATIONS
ON THE GENUS
MESEMBRYANTHEMUM,
IN TWO PARTS;
PART THE SECOND.

CONTAINING
AN ARRANGEMENT OF THE SPECIES,
AFTER A NEW PLAN,
SCIENTIFIC DESCRIPTIONS OF THEM,
THE SYNONYMA OF AUTHORS,
AND A GREAT VARIETY OF
CRITICAL, PHILOSOPHICAL, AND EXPLANATORY
REMARKS,

BY
ADRIAN HARDY HAWORTH,

BAKE OF COTTINGHAM, YORKSHIRE,
AND OF LITTLE OUELIA, LINCOLN.

LONDON.



PART THE SECOND.

CHAPTER I.

CONTAINING AN ACCOUNT OF NEARLY ALL THE DIFFERENT SPECIES AND VARIETIES OF MESEMBRYANTHEMUM I HAVE ANY KNOWLEDGE OF, WITH SCIENTIFIC AND PARTICULAR DESCRIPTIONS OF MOST OF THE SPECIES, AND REFERENCES TO VARIOUS AUTHORS WHO HAVE TREATED OF, AND DESCRIBED THEM,—ALSO THE DIFFERENT DIVISIONS OF THE GENUS INTO CONVENIENT AND NATURAL SECTIONS, AFTER METHODS ENTIRELY NEW,—AND A GREAT VARIETY OF OBSERVATIONS AND REMARKS, CRITICAL, PRACTICAL, PHILOSOPHICAL, AND EXPLANATORY.

MESEMBRYANTHEMUM,

FIG-MARYGOLD.

Gen. Pl. ed. 4. 618.

For. Pl. Lib. Soc. 618.

Jag. Gener Pl. 317.

CLASS AND ORDER.

KOSANDRIA PENTAGYNIA.

NATURAL GENERIC CHARACTER.

CALYX, *perianth* rose leaved, five cleft above, acute, expanding, permanent.

COROLLA, one petal'd; petals lance-linear, very numerous, growing in a
manyfold

manyfold series, rather longer than the *calyx*, slightly joined in one by the *claws*,
STAMINA, filaments numerous, capillary,
the length of the *calyx*, anthers in-
serted.

PISTILLUM, gone beneath, with five ob-
tusc angles, style shorter five, angled,
erect, reflected, stigma simple.

PERICARPUM, corolla fleshy, roundish,
with a sord marked with rays, ribs
answering the number of styles.

SEEDS, very numerous, roundish.

ESSENTIAL GENERIC CHARACTER.

CALYX, five cleft.

PETALS, numerous, loose.

CAPISLE, fleshy beneath, many seeded.

ASSOCIATED GENERIC CHARACTER.

CALYX, above, five cleft.

COROLLA, many cleft.

CAPISLE, fleshy, mostly five cleft, many
seeded.

THE *MINIANTHERUM* geniculi-
florum, (joint flowering) noctiflorum,
(night flowering) and tortuosum, (tor-
tuosus) are four female.

THE *MINIANTHERUM* longi-
forme Lin. (tongue form) pometia-
num, (afternoon) pugioniforme, (dag-
ger

get form) barbatus Lin. (bearded)
 acinaciforme, (cymatium formed) la-
 reum, (heap) with ten female.

OBSERVATIONS.

THE trivial name of *Melambryanthemum acinaciforme*, (cymatium formed) is by mistake spelled *acinaciforme*, and translated (berry bearing) by the Botanical Society at Leedsfeld, in their most odd translation of German Plantarum. I make mention of the circumstance, merely for the information of such of my readers, as are either unacquainted with the language in which Linnæus wrote his Botanical works, or are as yet too young in the study of this extensive and intricate genus, to detect and see the lightness of the error. To such, the plant might otherwise have appeared as a hermaphrodite species, a peculiarity utterly foreign to the nature of a *Melambryanthemum*.

Linæus says *Melambryanthemum barbatus*, (bearded) has ten stamens, as noticed above. The specimens I dissected had no more than five. I had only two to dissect.

Melambryanthemum villosum, (vil-
 lous) has no petals, but the calycine
 leaves

leaves are of an vesical texture, acquire a purplish tinge when mature, appear as if they were a calyx and corolla joined in one, and may perhaps in the economy of nature sufficiently answer the purpose, and perform the functions of both.

Melastrianthemum tricolorum is remarkable for its polygynous tri-coloured flowers; *M. tuberosum*, for its tuberous root; and *M. spinosum*, for its trichotomous thorns.

And there are many other *Melastrianthema* possessing characters and singularities peculiar to themselves, most of which being noticed under my descriptions of the species they belong, are the less necessary to be enumerated here, particularly when I recollect I am only writing an Essay or Observation on, not an History* of,

* A complete History of *Melastrianthema* ought to contain,

Correct figures of all the species and principal varieties known,—

Correct scientific descriptions of all their parts,—

All their properties rightly applied.

An account of their uses, economy and preservation,—

And a full notice of every thing worth mentioning, which has been handed down to us by every author who has wrote upon the subject.

McKenbryanthems, that is a task I cheerfully resign to abler hands; to such may live and flourishing plants of all the species in existence, be more accessible than I have hitherto had the fortune to find them! Into such hands may the works of all the authors, who have touched upon the subject, fall!

SPECIES.

S P E C I E S.

* *A N N U* ^{*A*}_{*A*}.Pinnat-
idum
(1)MICHMENTANTHEMUM folio pinnatifido.
Supplementum Plantarum, 160.*Aren's Herbar. Kewegb.*, vol. II. p. 193.*Swed's Cat.* 106.*Curt's Algebrae*, vol. II. p. 67.*Syl. Vegetab. Lichfield Soc.* vol. 1. p. 383.*Syl. Nov. Genes.* tom. II. p. 343.

Jagged heart'd fig-marygold.

O B S E R V A T I O N S.

Root, annual, not much branched, of short duration.

Stems, branching, coloured, if not over-watered, and trailing upon the ground, covered, as is the whole plant, with beautiful sparkling chrysoline papille.

LEAVES, pinnatifid, of a yellowish green colour, opposite, attenuate at the base.

FLOWERS, small, axillary, solitary, on length pedunculi, opening in July and August, of a yellow colour.

CALYX, five, cleft, unequal, segments 3 short, a longer and broader than the other three.

COROLLA, petals narrow, scarcely equal to the longest segments of the calyx, yellow,

yellow, erect, expanding in the afternoon.

STAMINA, filaments numerous, yellow, supporting yellow anthers.

PISTILLUM, germ, roundish, styles five, filaments simple.

SEEDS, numerous, small, roundish, and brown, enclosed in an obtusely angled obtrusum capsule.

INTRODUCTION according to M. Host.

Kew, into this country from the Cape of Good Hope, by Mr. Fr. Maillon, in the year 1774.

FLOWERS in July and August, bears forcing, and cannot be made to root from cuttings, which however when planted do not die until they have perfected flowers and ripened seed.

THIS and the following are the only annual species of *Melampyranthemum*, I ever had the pleasure of seeing alive.

*chry-
santhemum*
[s]

MELAMPYRANTHEMUM foliis alternis ovatis papulosis, floribus solitariis, calycibus late coracis, acutis minutis.

Sp. pl. 1. 688.

Grass Hort. Monsp. 147.

Desf's Hort. Kew. 4. 2. p. 179.

Swob's Cat. 106.

Mill's Hort. Kew. chap. 7. p. 154.

Supplem. Plantarum. 159.

Eglt. Voy. L'Archipel Indien. 2. 382.

Syl. Nat. Geol. torn. II. 343.

Melastriacearum J. Hill's Gen. Nat. Hist.

Hill's Eden, 200. Pl. 23. Fig. 1.

Melastriacearum, with oval, sharp, marked leaves, placed alternately, Mill. Dic. Ed. 7.

Diamond Fig-marygold, or ice plant.

Nat. of Greece, near Athens, Ait. H. Kew.

Cultivated in England, 1787, (Ait. H. K.)

Fl. June to September.

OBSERVATIONS.

Root, annual, of very short duration.

Stems, with opposite and alternate cylindrical branches, which when luxuriant trail upon the ground, and are 1 or 2 feet long, when pinched for moisture in a small pot, somewhat ascending, and from 6 to 10 inches long, at all times covered, as is the whole plant, with large and beautiful chrysaline papule, which, sometimes acquire a purplish tinge on the calyx, at the time the seed ripens.

Leaves, the first 4 or 6 opposite, each pair crossing the other, very lax and succulent, ovate, undulate, obtuse, serrulate, or wedged at the base, and concave, rather keeled underneath, especially at the base, with a slight corresponding channel along the convex of the upper surface,

face, which is covered with less and duller papule than any other part of the plant. Margia regular edged, with globular papule, which are less than those on the stems, upper leaves alternate, growing left and left, nearly sessile, small.

Flowers, whitish, with a considerable tinge of red, opening in the middle of the day.

FRUIT, extremely short, or none, alternate, arising from the side of the upper leaves.

CALYX, 5 cleft, segments unequal, 3 large foliaceous, hairy with piliform papule, and acutely pointed, a inner much smaller, frequently coloured with a purplish tinge, acute at the points.

PETALS, numerous, very narrow, black coloured without, whitish within, making a poor appearance.

STAMENS, numerous, whitish.

ANTRHÆA, whitish, yellow.

GERMEN, 5 angled, smooth, with a navel at the top.

STYLES, 5 length, not straight, white, stigmata, simple.

CARPALS, smooth, very fleshy, roundish, scarious, with a navel at the top, frequently purplish, with 5 green'd angles, and 5 cells.

SEEDS, numerous, pale.

chrysl. I think I have seen a variety with flowers
album entirely white.

luridum *MARCHANTASTRUM* foliis oppositis
(3) spatulatis obtusis scabridis, papulis
oblongis, lobulis calycinis oblongis
obtusis, medio coarctatis.

Amst's Bot. Kew. 2. 183.

Amst's Ger. 106.

Transparent fig. marrygold.

Nat. of the Cape of Good Hope, Mr.

Fr. Maffin, Art. Kew.

Introduced into this country in 1774.

Art. H. Kew.

Flowers, July. *Art. Kew.*

OBSERVATIONS.

I HAVE not seen this plant, although I
have frequently sought for it at Kew,
it is one of the numerous species in-
troduced by Mr. Maffin in 1774.

PEARSON Gmelin, although he has in-
serted most of the new species of the
Floras Kewensis into his *Syst. Nat.*
has I think omitted to insert the *M.*
luridum.

fulviflorum *MARCHANTASTRUM* foliis planis spa-
(4) tulatis, calliculisque papulosis, nervis
divaricatis, floribus scissilibus.

Amst's Bot. Kew. 2. 183.

Gmelin's

Gussone's *Syl. Nat.* tom. 1. 847.

Bellis flower'd fig-marygold.

Nat. of the Cape of Good Hope, Mr. Fr.

Agnes, Art. Kew.

Introd. 1774. *Art. Kew.*

Flower, July. *Art. Kew.*

OBSERVATION.

I HAVE not seen the plant.

glaucum (5) *MIMANTASTERNUM foliis amplexi-*
cucibus distinctis, squulatis glaber-
rimis, pedunculis longitudinalibus foliorum,
calycibus hemisphaericis.

Art. Bot. Kew. 2. 123.

Syl. Nat. Guss. tom. 1. 847.

Smooth leaved fig-marygold.

Nat. of the Cape of Good Hope, Mr. Fr.

Agnes, Art. Kew.

Introd. 1787. *Art. Kew.*

Flower, July. *Art. Kew.*

OBSERVATION.

I HAVE not seen the plant.

Helle- *MIMANTASTERNUM foliis spatulatis*
stoides planis brevibus, pedunculis longissimis,
(6) *calycibus lobis, plicis angulatis.*

Art. Bot. Kew. 2. 123.

Syl. Nat. Guss. tom. 1. 847.

Spatula leav'd. Fig-marygold.

*Nat. of the Cape of Good Hope, Mr.
Fr. Maffon, Ait. Kew.
Introduct. 1774. Ait. Kew.
Flowers July and August, Ait. Kew.*

OBSERVATION.

I HAVE NOT SEEN THE PLANT.

permark- *MIMMISTANTHEMUM foliis planiusculis*
atum *lanceolatis levibus subulatis dis-*
(7) *tinctis, caule pubescente, gemmi-*
bulisque hirs.

Spec. Plantarum 1764. 638.

Ait. Hort. Kew. 2. 174.

Sp. Nat. Good. Tem. 2. 247.

Great yellow flowered Sp. Marygold.

Nat. of the Cape of Good Hope, Ait. K.

Introduct. 1774, by Mr. Fr. Maffon, Ait. K.

Flowers July and August, Ait. K.

OBSERVATIONS.

I HAVE NOT SEEN THE PLANT.

LEWIS describes it minutely in *Spec.*

Pl. 638.

pedicel- *MIMMISTANTHEMUM foliis alternis co-*
runt *reticulatis obtusis basi ciliatis.*

(8)

Spec. Plantarum 1764. p. 617.

Mimistanthemum 1. Mill. Dic. Ed. 7.

Mimistanthemum pulchrum Hoff: Hort.

Kew. 154.

Mimist.

Melastom. n. Hill's Gen. Bot. Syst. p.
438.

Syl. Fig. Lichfield Society. 1. 38a.

Art. Hort. Kew. 2. 178.

Syl. Nat. Gen. Tem. 2. 843.

Wight's Hurtleymen, 1. 167.

Egyptian fig-marygold.

Native of Italy and Egypt. *Art. K.*

Cultivated in this country by Mr. Philip

Miller, 1748. *Art. K.*

Flowers August. *Art. K.*

OBSERVATIONS.

ALL the authors above referred to, except Ornela, took this *Melastomanthemum* as No. 1. of the genus; he makes it the 4th.

I have not seen the plant.

apeta-
lum
(9)

*Melastomanthemum foliis lanceolatis sub-
lanceolatis, subus mucosis caulis
prostratis.*

Supplementum Pl. 238.

*Melastomanthemum apetalum foliis asplen-
tibus ellipticis, lanceolatis supra pilos
interstitiis longioribus papulosis, papulis
oblongis, floribus pubescentibus, calycibus
papulosis, Art. Hort. Kew. 2. 180.*

Syl. Nat. Gen. Tem. 2. 844.

Swet's Cat. 196.

Threat spreading fig-marygold.

Nat. of the Cape of Good Hope, Art. K.
Introd. 1774, by Mr. Fr. Maffon, Art. K.
Pl. July and Aug. Art. K.

OBSERVATIONS.

I HAVE never seen this plant.
 It is first described in *Supp. Pl. (et large.)*

copi- MINIMETANTHUS folia, semina-
 cula tilia papulosis distinctis, floribus sessi-
 (10) libus axillaribus, calycibus quinque-
 folis.

Spec. Pl. 683.

Syst. Nat. Tom. 2. 844.

Syst. Veg. Lichf. Sec. 1. 382.

Wight's Marbryman, 1. 162.

Wight's Cat. 161.

Coptic fig. mirygold.

Nat. of Egypt, (p. pl.

Florum

OBSERVATIONS.

I HAVE not seen this plant, nor has it (so far as I know) been cultivated in this country.

THERE is a copious description of it in *Species Plantarum*.

It is the last annual I am able to enu-
 merate regularly in my list; I say re-
 gularly, for I suspect there are several
 annual

annual species in my section " *incana* = *albua*."

All the above *Mclembryanthura*, except the last, are Kew Catalogue Plants, (plants of Mr. Aiton's Hort. K.) I have very frequently sought for them in the Botanic Garden there, but never with success; on which account, I am inclined to think no more of them yet exist in this country, than *pinastifolia* and *chrysalleana*.

* * B I E N N I A.

populo- *MINUTICORNIS* foliis oppositis
sum distichis, ovato-spatulatis papulis sub-
 (11) globosis, calycibus angulatis quinque-
 foliis, raris angulatis.

Ab. Hort. Kew. 2. 452.

Sapp. Pinasteron, 259.

Syl. Flg. Lark. Soc. 1. 585.

Syl. Nur. Gledit. Tem. 2. 147. -

Angular stalked flg.-merrygold.

Nat. of the Cape of Good Hope, Ait. K.

Introd. 1774, Ait. Kew.

Fl. April—Oct. Ait. K.

OBSERVATIONS.

I never saw this plant; Mr. Aiton makes it the last plant of his second section, "*rubicunda compta*," but the younger Linnæus, who describes it minutely

minutely in Suppl. Plantarum, figs,
the flowers are yellow and small.

It approaches pretty well my caricum,
and if the leaves of caricum had been
the half spatulate, I should have
thought them the same.

Trip- *Mesembryanthemum folia alternis lan-*
stem *ceolata, plicis impressata, caulibus*
(112) *laxis simplicibus, calycibus pentagonis.*

Spreng Pl. 1. 690.

Syst. Veg. Lichf. Ser. 1. 383.

Ait. Hort. Kew. 2. 382.

Syst. Nat. Om. Fem. 1. 343.

Hist. Nat. Kew. 154.

Wight's Mesembryan. 3. 363.

Wight's Cat. 161.

Mesembryanthemum 3. *Müll. Dic. ed. 7.*

Plain leaved fig-marygold.

Nat. of the Cape of Good Hope.

Cult. 1700 in Chelsea Garden, Ait. K.

Fl. June—August, Ait. K.

OBSERVATIONS.

Root, biennial, according to LINNÆUS
and the *Hortus Kewensis*.

Stems, prostrate, smooth, finally termi-
nating in flowers.

LEAVES, frequently opposite, lanceolate,
sub-egg'd, and somewhat membran-
aceous towards the base, bearing a dif-
ferent

great resemblance to those of *Aster tripolium*; whence, I suppose, Linnaeus's trivial name.

FLOWERS, terminal, usually solitary, silvery white, opening in the middle of the day, and of short duration.

PANICULES, terminating the branches, sub-erect angled, angles originating from those of the calyx.

CAULIS, exceeding large, (as in the case with all the biennial kinds) acutely and deeply pentagonal, five clast, segments, shortish, unequal, two outer filicose, plain and large, three inner, left, with subulate points, beneath which is a pricelling ridge-like membrane.

PETALS, numerous, silvery white, extremely narrow or almost capillary, and not quite so long as the Calyx.

FILAMENTA, extremely slender, white.

ANTHERAS, small, whitish.

GERMENS, (mooch, deeply five angled, large.

STYLUS, five, slender, expanding, stigmatate, simple.

CARPULA, very large, and deeply five angled, few celled, very fleshy, flesh extremely hard and firm, cells very small, filled with a few large seeds, partitions whitish,

whitish, resembling (in miniature) the case of an apple.

Same, few, but very large, while yet included in the living capsule, branch-lancey form, verrucose, and of a shining dark brown colour.

When one of them is cut longitudinally, with a sharp pen-knife, it displays to curious and inquiring eyes, the young embryo, or future plant, which is large and green, and shaped somewhat like the half of a parenthesis, or rather the segment of a circle, and extends from the base or thickest end of the seed, close along its hunched or gibbous side, up to its point, which is just perceptibly end notched, and is, in all probability, afterwards opened forcibly by the expanding efforts of the vegetating embryo or bud, which bud is imbedded in the farinaceous substance that composes the remainder of the seed, and may, while thus circumstanced, be compared, by the assistance of analogy, to the white of an egg's supporting the embryo chick under the shell.

The bud is not absolutely surrounded by the above-mentioned farinaceous substance, but lodged in a cavity or hollow, that extends along the gibbous side of the seed's coat; the upper extremity

truncity of which coat is evidently attenuate or pointed, and marked for about one third its length, with a scarcely perceptible line, where it may possibly divide, after having been contracted to the centre, and by expanding each way, dilate the fixed leaves of the plant.

THE curious variation in the structure of the seeds of vegetables, is worthy the attention of every natural philosopher, and is capable of throwing considerable light on the generic and other botanical characters of plants, and may, perhaps, at some future period, be more attended to than at present.

caducum (15) *MENTHASTRUM* foliis difformi-
mixture distinctis: papulis ovatis:
floribus laceratis diffusis, terminalibus basi foliorum cinctis.

Alt. Her. Kew 2. 179.

Syst. Nat. Good. Tem. 1. 144.

Small flowered fig-marygold.

Nat. of the Cape of Good Hope, Mr. Fr. Muller, Alt. K.

Introduced 1774.

Fl. July and August. *Alt. K.*

OBSERVATION.

I HAVE never seen this plant.

***PEREN.

* * * P E R E N N I A.

† S U B A P H T L E A.

* mini- *Massoniana* plants Canada.
 mum *obovata truncata, maculata, minima,*
 (14) *maculis confusioribus.*

Leaf fig-marygold.

Native

Introduced into England

Flowers

A new species.

O B S E R V A T I O N S.

Root, perennial, consisting of a very few fibres, which penetrate but a little way into the ground.

Stems, none, which you call the whole plant is, which is marked with several single and confluent spots, is alternate downwards, about half an inch high, and truncate above, each side rising a little higher than the middle, causing it to appear as if transversely channelled; in the center of the channel is a scarcely perceptible linear aperture, closed with a few microscopic hairs, or rather a pubescence, the only use of which appears to be to keep out intruding insects, or too much water, from entering the heart of the plant.

LEAVES,

LEAVES, none, which you call the outer skin or coat of the plant so, which, in truth, is the only part analogous to leaves; this outer covering, just described under the title "stem," is fleshy when young, and capable of being separated from the parent plant; when old, it withers, and appears to determine its slip to the next or inner coat, which perpetuates as the first decays, and finally bursts it asunder—it still hereafter to undergo the same change.

FLOWER, There not from is a perfect state; it is solitary, yellow, small, rising just above the central pubescent collateral apertures of the plant, and opens in the

PARENTS, extremely short.

CALYX, I have not examined.

PISTIL, yellow.

REMARK. There is a variety of this wonderful little plant, known to some Gardeners by the name of *little dumplin* or *dumplin's wife*.

ADDITIONAL OBSERVATIONS.

GARDENERS know these strange little plants by the names of *greater* and *lesser dumplin*, or *dumplin* and his wife;

wife; as I have not seen the latter, I say nothing about it; it may possibly be a distinct plant, and is likely to differ in its spots, which are, perhaps, separate, and not confluent.

THE former is truly a curiosity, it can scarcely be said to have a perfect leaf, for, it in a manner consists of a substance, which is analogous to two leaves united; above, it usually (but not always) acquires a degree of expansion, which ought rather to be called a dilated aperture, or sick, barely sufficient to distinguish it from a solid body; from which aperture, a small yellow flower is occasionally protruded, which scarce appears above the truncated surface of the plant. The growth or production of a pair (if to the above-mentioned body may be called) of young leaves, always bursts slender the old pair, which very soon after wither and dry up, so that the plant has never two pair of living leaves visible at the same time, whence it is enabled to preserve and keep up its abnormal form.

THE others appear to arise from the side of the plant, or sometimes, though rarely, two are seen bursting from the same body or pair of leaves, at which time

time they (the offsets) resemble the root of a tulip bearing two young bulbs, surrounded by the withered coats of the old bulb, and like the offsets of a tulip, appear to form two separate and distinct plants.

- * *aculiforme* (15) *MALACOSTACHYON*, plants caulescens, glaucæ, subpharoides, foliis lanceolatis.
Nacifera fig. marygold.
 Native of
 Introduced into this country
 Flowers
 A new species.

OBSERVATIONS.

There is a very singular plant, it is allied to *malacostachyon*, and like that species, has no perfect leaves, although when drawn up by warmth, it sometimes acquires two extremely short leaves, outjoined almost to the points, one of which is gibbous, and longer than the other. I have not been able to obtain specimens of it proper for description.

It is very glaucous, appears to offset pretty freely, and soon forms a little family or cluster of separate heads or plants, of various sizes, from that of a

small knop out or left, so that of a very large Spanish nut, which the perfect effects of plants pretty much resemble, in point of shape, on which account I thought the trivial name *nuciforme* a tolerably applicable one.

Some of the plants are more globular than others, some more spheroidal, and some more resembling nuts, from having flattened sides, than others.

I never saw the plant with two perfect coats, or leaves, or leaf sheaths, as they might be called, for the growth of a second pair bursts asunder those which preceded them, which wither away soon after, in which particular the plant agrees with *minutum*.

At the apex of the plant is a transverse rib or fissure, little more than sufficient to distinguish it from a solid body.

I think this fissure is not chaste, as in *minutum*, but are not quite sure, for I draw this account entirely from what I remember of the plant, which I saw growing about a week ago.

This fissure, shallow as it is, or rather the two sides of it, are the parts which answer to the leaves of other *WURSER-FLANTHEMA*, as appears by viewing *M. nuciforme* and *M. tuberculat* together,

gether, for if the sides of the lobes of the former were a very little elevated or elongated, they would form leaves very similar, and almost as long, as those of the latter.

I HAVE some distant conjectures that this plant may be the same as that called *aggregata*, in my section "*incerta*" "*tribus*."

FLOWERS, I have not seen.

ADDITIONAL OBSERVATIONS.

UPON the observation on *minima*, I find I have forgot to add that it is the plant which Mr. Lee calls *hemisphericum*, (*hemispheric*) a character which I must confess, I have not been able to discover about the plant, but it is a species that admits of great choice of applicable names.

I once thought of calling it *truncatum*, (stopped or truncated) from its appearing as if cut off at the top; I also thought of naming it *verticillatum*, (top-shaped) and the term *classicum* presented itself to my imagination, all of which I think inappropriate, when compared with *minima*, for it is by much the least of the genus I have either seen, or heard of.

- **moniliformis*.
(16)
MAMMILLARIANTHUS *caerulea*, *fabro-*
aldensis, foliis vix ciliis, aut brevif-
loris, coccineis.
Mossiforme fig. enrygald.
Native
Introduced into this country
Flowers
A new species.

OBSERVATIONS.

I HAVE seen this plant in two collections only, and have not been able to get a specimen proper for description.

Stems, grofs, a little branched, and about 4 inches high in the plants I saw; and somewhat moniliform.

Leaves, scarcely any, sheathing the stem, and perishing upon it after they are withered; they are conjoined almost to the points, after the manner of those of *saxifraga*, but open a little at the top, where they are rather pointed, and appear like a solid body slightly cleft.

The protrusive growth of a pair of new leaves sends the old ones, especially above, which soon after wither, and remain sheathing the stem.

The leaves of all the plants of this *fabroaldensis* are rather leaf sheaths than leaves,

leaves, but they are closely allied to trifoliate, the first plant of the next sub-division, which has something of the same habit of growth, but acquires real, although extremely short fleshy leaves; but rarely, if ever, possesses more than four of them at once, for like the plants of this sub-division, an old pair of its leaves begins to wither as soon as the new pair is formed.

Flowers I have not seen.

† † *SUECAGULIA FOLIOSA.*

trifoliate. *MINIMIVANTATUM* foliis quatuor
dentatis super planis.

(17) *Bot. Hort. Kew.* 1. 181.

Syst. Nat. Good. Tem. 2. p. 842.

Short white leaved fig-marygold.

Nat. of the Cape of Good Hope, Mr.

Fr. Mullen. Art. K.

Introd. 1774. *Art. K.*

Flowers

OBSERVATIONS.

Root, fibrous, perennial.

PLANT, branched, very white and short.

LEAVES, growing four ways, or each pair crossing the other, rarely more than 4 living once on the same plant at once, and the oldest of those often

leaf plump than the other pair. All the leaves are coriaceous below, extremely short and thick, but much thicker at the base than towards their blunt points, rounded on the outside, flat within.

- *Tallus *MICROMETASTERNUM folia coriacea*
 (14) *limbo-oblongis equalibus brevibus ob-*
tusis ciliatisque glaucis.
 Clust leaved fig-marygold.
 Native
 Flowers
 Introduced

OBSERVATIONS.

This is a monokrypt species, of very bushy growth, whose flowers I have not yet seen, allied to the *M. calceoliformis* and *reticulata*, intermediate, but extremely distinct.

DESCRIPTION.

Root, fibrous, perennal.

PLANT, fleshy, when young; when very old, acquiring a very short weak trailing stem.

LEAVES, of a bluish glaucous green colour, coriaceous at the base, linear, oblong, of equal length, rounded underneath, planeish above, at the very point

points blunt, but slightly hooked; whilst young, a pair of them at first sight, look as if they had been one solid body or substance, cleft down the middle with a knife, whence the term *filum*, cleft.

FLOWER, I have not seen.

Hibiscus *MINUTEFANTICUM* foliis cuneatis
(15) linear-oblongis, inequalibus obtuse
scutellatis, sub-gibbosis.

Gibber's cleft fig-marygold.

Native.

Introduced.

Flowers

A new species.

OBSERVATIONS.

PLANT, very much like *filum*, but appears distinct; it is only right to say I have seen it but once, (yesterday,) and that I write this description from what I recollect of it.

LEAVES, like those of *filum*, but of unequal length, that is, in every pair of perfect leaves, one of them is longer than the other, as is seen in *gibbosum* and *perrivide*, the leaves are likewise less glaucous than those of *filum*, being rather of a bluish green, than a glaucous colour.

Flowers, I have not seen.

ADDITIONAL OBSERVATIONS.

I HAVE seen this species again, and am convinced it is a very distinct plant.

LEAVES, much less glaucous than those of *filum*, of unequal lengths, the largest of them frequently gibbous underneath, and slightly attenuate at both ends, particularly at the base, which gives them the air of *aciacanthum* leaves.

*peruviana *MIMANTZANTHUM folia obtusa in-*
(24) *equibus punctata fruticibus, extra-*
conatis, intra plano-conatis.

Small deep green fig-marygold.

Native

Introduced

Flowers

A new species.

OBSERVATIONS.

PLANT of dwarfish growth, stemish when young; when old may possibly acquire a short trailing stem like *filum*.

LEAVES, about an inch long, when not drawn up weak, coriaceous, punctate, perfect ones unequal, of a deep glossy green colour, teracylindric, or sub-round,

round, or in other words linear-oblong, convex on the outside and plane-concave on the inside, particularly from the middle downwards to the base, with a slight compression near the points, which are blunt.

Flowers I have not seen.

A new species resembling *fissum*, and *gibbosum*, intermediate, but extremely distinct.

Introduced

Flowers

Native

**gibbosum* *MISCHERYANTHEMUM*, foliis inequalibus brevibus, causticis ceteris gibbosis.
(11) Small gibbous fig-marygold.

Native

Introduced

Flowers

A new species.

OBSERVATIONS.

Root, perennial, fibrous.

Plant, herbaceous, of a dusky glaucous green colour.

Leaves, various, concave, expanding, scarcely two of equal size on the whole plant, one of a pair always larger, longer, and more gibbous than the other, few of them more than one inch

(158)

inch long, all of them, more or less blunt, compressed, oblique and gibbous.

Flowers I have not seen.

A new species, but known in the north-
ern by the name of gibbolum.

**pubescens* *MELASTOMATACEUM* foliis internodiis
(15) *conatis inaequalibus, sub-pubescentibus, sub-gibbosis apice subtus, sub-cuneatis.*

Pubescent Fig-marygold.

Native

Introduced

Flowers

A new species.

OBSERVATIONS.

Root, fibrous, perennal.

Flower, double. (whilst young at least,) of a heavy colour, and pubescent in the microscope, scarcely so to the naked eye, unless viewed advantageously in a favourable light.

Leaves, in shape and habit, much resembling those of *peruviana*, but closely covered with the above mentioned heavy pubescence, and somewhat more compressed towards the point, which are rather less blunt, and somewhat sharper keel'd underneath.

A new

A new species which I have not seen flower, it is an exceedingly different plant from that which is called pubescens at Mr. Lee's. That plant I saw when I was in his ground, it is a shrub, and I am much mistaken if it is any thing else than the *M. mollis* of Mr. Aiton's *Hortus Kewensis*, but having no specimen of it, I dare not be positive, particularly when I recollect Mr. Aiton's *mollis* is very little of a pubescent plant, and yet I have seen *mollis* in some stages of growth, almost as much intitled to the name of pubescens as the plant I have just now given that name to.

- digitatum*
(13)
- MALVASTRUM PUBESCENS* subcaule, foliis alternis teretibus obtusis, floribus axillaribus diffusis.
- Art. Hort. Kew.* 4. 1811.
- Bot. Voy. Bot. Genl.* tom. 2. 843.
- Blunt leav'd fig-marygold.
- Nat. of the Cape of Good Hope, Mr. Fr. Maffin, *Art. Kew.*
- Introd. 1775. *Art. Kew.*
- Flowers.

OBSERVATIONS.

I have not seen this plant, except a white blunt leaved plant at Mr. Lee's was

it; which the farmer told me was *M. digitatum*. If the leaves had been described as opposite and semi-round, instead of round, I should have thought either *Myrsine* or *peruvianum*, the same as *digitatum*.

coland- *MIMANTHASTRUM folio sub-tri-
forme* lobis, adscendentes expansatis, con-
(24) natis, floribus corymbis.

Species pl. 690.

Syl. Voy. Lichf. Soc. 383.

Syl. Nat. Genl. torn. 2. 344.

As. Hort. Kew. 2. 181.

Hill's Hort. Kew. 154.

Wight's Nerbryman, 1. 163.

Wight's Cat. 161.

Swinh's Essay, 60.

Misc Desc. ed. 7. Myrsanthastrum, 7.

Quill leaf'd fig-marygold.

Nat. of the Cape of Good Hope.

Cult. 1717. *As. Kew.*

Flowers most of the summer months.

OBSERVATIONS.

FLOWERS, dull whitish, opening in
PANICLES, or rather laxpan, short,
solitary, arising from the centre of the
plant.

CALTE,

CALYX, segments unequal.

PETALS, very slender.

STAMEN, in the specimen before me, eight.

CAPITULUM, globe-shaped, 8 cell'd.

- **Sibula* *MUCHOMANTHEMUM aculea*, folia
goides *subulata*, apice triquetris, integrifolia.
 (15) *Intim* and *laur'd* fig-marygold.
Native
Introduced
Flowers
A new species.

OBSERVATIONS.

PLANT, perennial, for several years flower-
 ing, acquiring by age a very short stem.

LEAVES, fleshy, (both sides,) very entire,
 punctate, subulate triquetrous at the
 point, which in the young perfect leaves
 terminate in fine recurving white, hair-
 less bristles or hairs, or, at the base the
 leaves are rounded on the outside, flat
 on the inside.

THIS is the plant which is called *subula-*
tum at Mr. Lee's.

By the name *subulatum*, I naturally
 suppose they mean Mr. Miller's *Subu-*
latum, the next plant I shall de-
 scribe, which I conceive to be a dif-
 ferent plant from this, for Miller ex-
 pressly describes his plant with *subulate*
tri-

triquetrous leaves, ferrule on the basal angle, which I find is by no means the case with this plant, in any stage of growth, for I have observed it from one to many years old.

I repeat there is no room for supposing this plant the compassum of the Florus Kewensis, which I have not yet seen at Kew.

fibula- *MIMANTHERUM*, acule, foliis
tum *fibulatis triquetris, denso fereque*
(16) *sereno.*

Miller's Gard. Dic. ed. 3. Mimanthrum
sereno, 10.

Ar'd-lan'd fig-marygold.

Native

Introduced

Florus

OBSERVATIONS.

I BELIEVE this plant is called *fibulatum* in some edition of the Gardener's Dictionary, I have never seen it, except perchance Mr. Miller intended the same plant which I have named *denticulatum* below, which I am inclined to think unlikely, for my *denticulatum* is a very white leaved plant, and Miller takes no notice of his *fibulatum*, being either white or glaucous,

own, which his usual accuracy would have led him to mention if his plant had been of either of those colours.

He expressly says his plant is scabrid, or I should have thought he might have meant either *finatum*, or my *laevem*, by his *fabulatum*.

He could not I think intend the same plant as the compactum of the *Florus Kewensis*, which is I believe an entire leaf'd plant, so that we have no reason to think otherwise from Mr. Aiton's description of it, but compactum I have not seen.

Mr. Mianus is the only author I have had the opportunity of consulting, who describes the *Microbryanthemum fabulatum*.

bellidiflorum finatum	<i>MICROBRYANTHEMUM acule, foliis tri- cuspis linearibus imbricatis, spica triflorum dentata.</i>
--------------------------	---

{17}

Species plantarum. 690.

Eytl. Fyz. Lachfeld Society, v. 1. 163.

Eytl. Nat. Genl. vott. 2. 344.

Art. Hort. Kew. 7a. 163.

Cassini's Hort. Alpina, p. 243. 1762.

Hist. Hort. Kew. 154.

Wight's Neweyman, 1. 163.

Wight's Catalogue, 161.

Buch's Essay, &c.

Mil.

Mitt. Dic. ed. 7. Miconobryanthemum, 3.

Striate daisy flowered fig-marygold.

Introduced

Flowers June to October, or much later.

OBSERVATIONS.

*bellidiflorum pur-
pureum.* Mr. MILLER says in the place just quoted, that this plant has a *smaller per-
soph flower*, which is not the case with the *M. bellidiflorum*, seen in almost every collection of plants, which has a fine, by no means small, variegated flower, greatly resembling that of a single garden daisy, or rather that of the *Miconobryanthemum frutescens* of these observations, which is the *M. ligatum frutescens* of authors.

MILLER copies the specific character of LINNÆUS from HORTUS Cliffortianus, and refers to Bradley's History of Succulent Plants, where it seems, by Miller's reference, and indeed that of LINNÆUS, the plant in question is figured. Now, whether MILLER had the real *bellidiflorum*, and had not seen it flower, and so taken the size and colour of the flower from Bradley's, perhaps, uncoloured figure; or, whether he had some variety of it, or other species like it, with a small flower, which he had
from

stem bloom, and taken for *bellidiflorum*, is the matter to be considered.

PERHAPS he had the same *bellidiflorum* we have, and had not seen it flower, so had taken the account of the flower from Bradley's figure; or, perhaps, from some account of it in *Flora Cliftonensis*, a book I have not had the opportunity of consulting.

PERHAPS he had some variety of *bellidiflorum*, with a smaller purple flower, which he had taken for *Linnaea bellidiflorum*.

OR, perhaps, he had a distinct plant, resembling *bellidiflorum* in its foliage, with a smaller purple flower.

It is scarce likely that he should have taken the *M. foeticosum* of Linnaeus, for *M. bellidiflorum*, with a purple flower; for *foeticosum* is a caulescent species, acquiring by age short trailing stems; and *bellidiflorum*, at best, no more than a sub-caulescent plant.

AND yet the idea gains ground apace, when I recollect, that both plants answer most remarkably well to the words, "*folia triquetris apice trifurca densata*."

AND that no other *Mesembryanthems* admit the same description, except, perhaps, the four ragwort species, viz.

K

crinum,

castrum, filicem, tigrinum, and rostratum, of their OBSERVATIONS, all of which have yellow, not purple flowers.

And that the flowers of *forficatum* are purple, and as it were, feebler, (but not near so much so as those of *bellidiflorum* *fruticosum*) and almost exactly resemble those of *bellidiflorum*, even more so than those of *M. strigosum* of their OBSERVATIONS.

And the conjecture is further strengthened, when I recollect, that I have found no description of *M. forficatum*, in the 7th ed. of the Gardener's Dictionary, except the above cited one belongs to it.

At all events our *bellidiflorum* has a very *few* *flowers*, by no means *small*, striated flowers.

In the translation of the *Systema Vegetabilium*, by the Botanical Society at Lichfield, the trivial name of this *Mesembryanthemum* is printed *bellidiflorum*, instead of *bellidiflorum*, a mere error of the press, I suppose, which I mention, lest it should prove a stumbling block to some one, very young in the study of this large genus, the significations of the two terms being so considerably different; one meaning
the

the flower of a daisy; the other the leaf of that plant.

**bellidiflorum al-
bum.** GORAN in the Hortus Regius Monspeliensis above quoted, mentions a white variety of the *M. bellidiflorum*, which I have never seen.

The following is a description of *M. bellidiflorum striatum*:

Root, perennial, fibrous.

PLANT, for a long time stemless, by age acquiring a short stem.

LEAVES, green, expanding, triquetrous, compressed, fleshy and firm, sometimes entirely destitute of teeth, but the perfect ones are generally toothed, three ways towards the points, which sometimes curve slightly inwards.

FLOWERS, exceedingly like those of a single red daisy, broader over than a shilling, when fullest expanded, terminating the stoutest hearts or branches of the plant, produced on a sort of short spike, which usually supports two (not often three) bracted peduncles, sometimes only one, in which case, the spike degenerates into a kind of scape. In six specimens before me, the flowers of four are on the above-mentioned kind of spike, and two on a solitary bracted scape.

K. 2

SEKER,

SEAMS, very short, compressed, with two coarse bracteaceous leaves near the base, like the leaves of the plant, but less, and three ways tooth'd, from the centre of which arise the peduncles.

PEDUNCLES, cylindrical, somewhat compressed, with two foliaceous bristles, near the middle.

BRISTLES, two on each peduncle about its middle, foliaceous or like the leaves of the plant, but much less, triangular, compressed, ciliate, and often three ways tooth'd.

CALYX, five parted, or five leav'd, pentamerous, funnel shaped, leaves broad at the base, nearly equal, two rather longer than the other three, much dilated at the base, gradually tapering to a point, slightly keel'd, with a tooth or two on one side near the point, the three other leaves rather shorter, with broadish membranaceous edges, and an acute tooth-like point.

PETALS, numerous, nearly equal, lance-lanced, some entire and blunt, others deeply and sick'd, exactly like the radiating petals of a single garden daisy, of a whitish colour, with a bright purple midrib or keel, extending up to the point outwardly, only half way up inwardly, purple tipped, and edged with a fine

a fine line of purple down the sides, pleasing to the eye, and expanding only to a warm fan in the forenoon.

FILAMENTA, numerous, papulose, convergingly arched over the styles, purple, of nearly equal lengths.

ANTHERS, small purple, pollen purple. GERM, fleshy, but dryish, bluntly five angled, flatish.

STYLIS, five, very short, erectish, green, often tinged, purplish above, rough with shaggy papulose hairs.

CARPUS, five angled, five cell'd, fleshy, and fig. form, but short and firm round the base.

SEEDS, numerous, small, lodged in five dry cells,

*denticula- *Mammillaria angustata* foliis cœnatis in-
 truncatis cœnoscitibus compactis - triquetris,
 (18) foliis incurvatis, basi attenuatis, apice
 lobatis denticulatis,

Denticulate hoaryish fig-marygold.

Nat. of the Cape of Good Hope.

Introduced 1793, by Messrs. Greenwood
 and Co. Nurserymen, Kensington,
 Flouren.

A new species I believe.

OBSERVATIONS.

PLANT, rather hoary than glaucous,
 Spinulose, microscopically pubescent.

K 3

LEAVES.

LEAVES, coriata, in the plants I saw, about two inches long, of a dull whitish colour, or from glaucous to incanescens; when observed in the microscope very tightly pubescent, rather inclining inwards, compressed-triquetrous, somewhat attenuate downwards, where the keel is rounded. When perfect, the under sides of the points are furnished with one or two spinulose denticulations, whence my name.

THE attenuation at the base of the leaf, and its tendency to curve inwards, added to its being compressed-triquetrous upwards, almost tempted me to call it a sub-sessile leaf; but the above specific character, will alone (I trust) abundantly distinguish it from all its congeners.

It seems nearest to approach compactum, and Miller's subulatum.

BUT differs from the former in its denticulate leaves, and from the latter, (I should apprehend) in its hoary colour, which I have before noticed under my remarks on Miller's subulatum, to which I request the reader to turn.

MICROMERANTHERUM denticulatum, might have admitted the name pubescens, with somewhat more propriety than the one called so at Mr. Lee's, which,

which, from what I live of it, I conjecture to be no more than the bl. melle of the Hort. Kew.

Dactyloctenium is a fine sort, was raised from Cape seed by Messrs. Greenwood and Co. Kensington, and has not yet produced flowers with them.

ADDITIONAL OBSERVATIONS.

Since writing the above, I have seen two plants at Kew, extremely like *denticaltum*, if not the very same. They appeared rather to differ from *denticaltum*, and from each other as follows:

dent. *glauca*. LEAVES, more glaucous-white, that is, *glauca* less hoary, broader at the point, with from two to three teeth.

Glaucous denticulate fig. marrygold.

dent. obs. LEAVES, exceeding white, looking almost *dechlorum* as if mealy, length, much compressed at the point, with two, three, or more teeth.

White denticulate fig. marrygold.

FURTHER OBSERVATIONS.

Both these varieties, if such they really are, had large raised blisters or pustulations at the inner base of the leaves,

which I do not recollect in Griseb's plants.

Not having in my possession any specimen of the two Kew sorts, I am unable to say any thing further about them; possibly they may both prove, on further examination, the very same as Griseb's plant; but I think they will not.

I conceive them to differ as follows, viz. *denticulatum curvum* is heartsh., and one or two tooth'd; *denticulatum glaucum* is very glaucous, and two or three tooth'd, and *denticulatum candidissimum* is almost mealy, and two, three, or more tooth'd.

refractum *MISSOURYANthemum* acule. folia bipinnatifida cuneatis externe tuberculatis,
(19)

Spr. Plant. 695.

Syl. Veg. Lach. Soc. 1. 383.

Syl. Nat. Genl. Tim. 2. 847.

Det. Hort. Kew. 2. 191.

Mill's Hort. Kew. 155.

Wight's Nerbryum, 1. 171.

Wight's Cat. 162.

Sm. & Egl. 62.

Atl. Gard. Dib. ed. 7. Myrt. 32.

Hercus beak'd fig-marygold.

Nat. of the Cape of Good Hope.

Cult.

Cult. 1733. Alt. Kew.

Flowers in Asters.

OBSERVATIONS.

Root, perennial, fibrous.

PLANT, stemless, producing offsets after the manner of minimum, which, on the decaying of the old leaves which enveloped them, appear like distinct plants.

LEAVES, coarsete, for about half an inch or an inch at the base, expanding, glaucous green, punctate (punctures as if in distinct groups, those on the inside, smoothish; those on the outside often tuberculate, especially in frayed plants, but in the healthy plant before me smooth) lower semi-cylindric, lobulate. Or, convex on the outside, flat on the inside, usually triquetrous at the points, not always so; generally about two and a half or three inches long, in the plant before me, some of them nearly six.

The habit of growth in this plant is much like that of minimum, both plants are strictly stemless in all periods of age.

The protruding growth of the young leaves in both, bursts under the sheathing part of the old leaves, and
easier

enables them to decay or wither, before the new ones are fully formed.

Miserere, appears as if its leaves were cut off close to the leaf-sheaths.

Reclinatum, extends its hemicylindric leaves from two to six inches beyond its half inch leaf-sheaths.

THE FLOWERS of *reclinatum* I have seen, but have no specimen proper for description.

**reclin-*
oides
(30)
MISERERE ANTHEMUM, foliaceis, foliis glaucis, foliolato-fimbriatis, basi extus convexa, intus pectatis, Short horse headed fig-marygold.
Native of
Introduced
Flowers
A new species I believe.

OBSERVATIONS.

THIS is the plant called *reclinatum minus*, at Mr. Lee's; from *reclinatum*; I apprehend it to differ specifically in the following particulars:

DESCRIPTION.

LEAVES expanding, coarsely (in all the plants I have seen) more triquetrous than those of *reclinatum*, only about

about half as long; more glaucous, and not so roughly punctate, and furnished just above the base on the inside with a large soft turned blister, or pustule, which I never observed in *rostratum*, and which almost tempted me to name the plant *pustulatum*; but I preferred the name *rostratoides*, (which will quite point out the plant to those who know *rostratum*) to it, when I recollected the two varieties of *denticulatum* above described, (and perhaps *denticulatum* itself) have similar blisters or pustules, similarly fruite. *ROSTRATOIDES*, can thus be the counterpart of the *Hortus Kewensis*, the plant next described.

Since writing the above description of *rostratoides*, I have seen a plant of it, which had acquired trailing stems, near two inches long.

com- *MIMANTHANTHEMUM acule foliis com-*
pactum *mune punctatis serratis, apice*
(31) *tripartitis subreflexis acatis, floribus*
latis, calyce subcylindrico, sex-
folio.

At. Hort. Kew. 2. 191.

Genl. Syst. Nat. Tem. 2. 348.

Dotted thick leaved fig-marygold.

Native of the Cape of Good Hope, Mr.
William Paterson. *Atl. K.*

Introd.

Introd. 1786, by the Council of South-
more. Art. K.

Flowers November. Art. K.

OBSERVATIONS.

I HAVE not been able to find this plant at
Kew, although I went there twice
very lately, for the sole purpose of
examining this and four other Me-
sembryanthus, described in the Hortus
Kewensis; not one of which have I
seen to this day.

albidum *MESSEMBRYANTHEMUS* *aculeis foliis tri-*
(31) *quatis integerrimis.*

Species Plant. 649.

Syst. Veg. Lichf. Soc. 1. 385.

Syst. Nat. Gard. Tab. 1. 848.

Art. Hort. Kew. 2. 184.

Hill's Hort. Kew. 133.

Wight's Nurseryman, 1. 171.

Wight's Cat. 162.

Swal's Essay, 61.

Hill, Gard. Dic. Ed. 7. Mesemb. 45.

Flacida Africana triangulari subglossa-
phila, Horn. Per. Est. 171.

Robust white fig-marygold.

Native of the Cape of Good Hope.

Cultivated 1714. Art. K.

Flowers, May, July.

OBSER-

OBSERVATIONS.

I HAVE no specimen of the plant in flower, proper for particular description. The following description is drawn from an imperfect specimen.

PLANT, *Scirpifolia*, *flex.*

LEAVES, increasing, triquetrous, very robust, white and tapering, succulent, but very firm to the touch.

SCAPE, arising from the heart of the plant, stout, terete, white; furnished above the middle with a pair of bracts.

BRACTES, connate, placed a little above the middle of the scape, white, incurving, very large and foliaceous, or resembling the leaves of the plant.

CALYX, white.

FLOWER, very large and showy, yellow.

PETALS, numerous, large.

GERM,

STYLAR,

CARPUL,

SEEDS,

} I have not examined.

FURTHER REMARKS.

ALBUM, does not root so very freely from cuttings as the other *Scirpifolia* species.

THE

THE both of its leaves is of a much firmer texture than that of the generality of *Melampyretineae*.

- ⁶*curum* *MELAMPYRANTHEMUM* foliis incan-
 (13) centibus, sub-scinasformibus, in-
 equetro-compressis, inferne attenuatis
 apertis cuneis gibbosis.
 Combret. fig. margoid.
 Introduced.
 Flowers
 A new species.

OBSERVATION.

THIS plant I believe to be new and distinct from all others.

DESCRIPTION.

PLANT, apparently fleshy, incanescens.
 LEAVES, two inches long, crossing each other in pairs, boargh, sub-scinasform, rather hard to touch, and burged; inequetro, compressed, attenuate from the middle downwards; sharply keeled; keel hunching out towards the point, which is roundish, with a sharp keeled edge.
 THE full-grown leaves resemble the fluted toothlike leaves of *M. curum*, exceedingly.

TEXT

THIS also resembles the falsest green
glossy leaves of *M. foliolosa*, which
however is a much greener leaved plant.

caeruleum MAURITIANUM sub-acule foliis
(34) opposit. apice triquetris, floribus pedun-
culatis, pedunculis longioribus basi
bracteatis.

Melastom. regium caeruleum, Sp. pl. 638.

Melastom. regium Syst. veg. 385.

Melastom. regium Gaert. Syst. Nat. tom. 2.
847.

Melastom. regium caeruleum, *Alt. Hort. Kew.*
2. 134.

Melastom. regium caeruleum, *Waldst's Narbep-
flanzt.* 1. 171.

Melastom. regium caeruleum, *Waldst's Cat.* 162.

Melastom. regium *Waldst's Hort. Kew.* 133.

Melastom. regium caeruleum, *Swert's Essay.* 62.

Melastom. regium ed. 7. *Melastom.* 39.

Native of the Cape of Good Hope.

Dog Chap fig-marygold.

Cultivated in England, 1714. *Alt. Kew.*

Flowers August to October.

OBSERVATIONS.

Root, perennial, fibrous.

PLANT, herbaceous whilst young, acquiring
by age considerable woody lignous
Stems.

LEAVES, opposite, connate at the base,
expanding, glaucous, apex not
marked

marked with local punctures, somewhat aciciform; or, attenuate from the middle downwards to the base, where they are ferricylindric; thickening towards the points, where they are triquetrate, with a sharp keel, and sides edged with irregular barbed teeth; terminating in a slender tooth, placed on the inner side.

FLOWERS, large, showy, yellow, opening in the afternoon, and closing in the evening, about the hour thick of dolabriform open, supported on long peduncles, and forming a short kind of spike.

FRONDS, often furnished with concave bracted leaves, long, terminating the branches, usually three; the middlemost of which is often the longest, cylindrical upwards, often nearly scapiform and thickened.

CALYX, five cleft, or five parted, segments not quite equal, the two outermost being rather longer than the inner three, which are a little shorter, blunter, and membranaceous; all the segments when withered, expanding or recurved.

PETALS, bright shining yellow within, often tinged with purple outwardly,
anthers,

NUMEROUS, linear, not very blunt, entire.

PILAMENTA, numerous, whitish yellow, in the closed bud open before the corolla, converging.

ANTHERA, deep yellow, pollen yellow.

GERMEN, in the specimen before me imperfect.

STYLIS, five, straight, filiform, as long, or longer than the filament, greenish-yellow, stigmata simple.

CARPULI, five cell'd, three of which cells only are perfect in the specimen before me.

SEEDS, I have not seen.

- ELIMIA** *MAURITIA* *ANTHEMIS* acule, foliis sub-
 (113) tus semi-cylindricis, ciliatis, ciliis longis.
Myrsin. *virgata* *foliosa*, 3p. pl. 643.
Myrsin. *virgata* *l.* *Syl.* *Nat. Cur.* tom. 2.
 147.
Myrsin. *virgata* *foliosa*, *Art. Hort.* K. 2.
 194.
Myrsin. 13 & 19 of *Wright's Cat.* p. 164.
Myrsin. 49 and 51 of *Wright's Nurseryman*,
 1. p. 171.
Myrsin. 40, *Art. Bot.* ed. 7.
Myrsin. *virgata* *foliosa*, *Swet's Elys.* 62.
Myrsin. *foliosa*, *Hort. Hist. Kern.* 155.
 Our chap fig. manyfold.
 Native of the Cape of Good Hope.
 Introduced
 Flouren

OBSERVATIONS.

I HAVE seen this species, (for a species it most undoubtedly is,) in several collections, but have not been able to obtain a specimen for description. By what I recollect of it, it differs from *curatum* as follows.

PLANT, more resembling the *M. figiternum*, than the *M. curatum*, less, and softer to the touch, than the latter, and completely hairless as all the stages of growth I have seen it.

LEAVES, shorter than those of *curatum*, petiolate, much softer to the touch, and of a looser structure, (*curatum* being of a hard firm texture,) rounded or blunt on the under side or level, and not actually triquetrous upwards, as in *curatum*, edged above with long, hairless spinulose hairs or teeth, not with short, fleshy denticulations, as in *curatum*.

FLOWERS, I have not seen, but from its affinity to *figiternum* I should conjecture they are nearly sessile, and arise from the heart of the plant.

THE above description of *scissum*, and the following one of *M. figiternum*, I must not omit to mention, are written from what I remember of the plants only,
for

for I have not a specimen of either of them, although I particularly laboured for one of the latter at Kew when in flower, which, on account of the managers being out of the way, I was not able to obtain.

I have from a single leaf of *M. filiform* rooted (or struck as the gardeners call it,) like a slip or cutting.

Mr. MILLER regarded the *M. cuneatum* and *M. filiform* as plants specifically different, the latter of which if I mistake not, he call'd *colubatum* in one of the editions of his most excellent Dictionary.

MILLER was a man of judgment and of science, a man of real prudence and merit, whose experience as an Horticulturist, and as a Botanist, was the weighty produce of sixty years, enriched by unwearied assiduity, and almost unequal'd opportunities of putting it to proof. If MILLER considered the two last mentioned plants specifically different, surely I may. The opinions of MILLER relative to the specific fruits of plants deserve more attention than has hitherto been paid them, for they were the results of repeated experiments.

- **tigrinum*. *MESEMBRYANTHEMUM* acule, foliis maculatis ellipticis, ciliis longioribus.
 (36) Tiger sharp-fig-marygold.
 Introduced.
 Flowers, September.
 A new species.

OBSERVATIONS.

THE *M. tigrinum* is nearest allied to the *M. sibiricum*, from which I apprehend it to differ specifically in some of the following particulars.

PLANT, floridus in all the stages of growth, I have seen it; more succulent and gross than *sibiricum*.

LEAVES, rather shorter than those of *sibiricum*, beset with much longer hairs on their sides, and maculated with numerous whitish coloured spots.

FLOWERS, arising from the hearts or centres of the plant, sessile, yellow, large.

PEDUNCLES, or rather sipes, apparently none.

I THOUGHT of naming this fine new *Mesembryanthemum*, *maculatum*, or *variegatum*, from its maculated foliage, but on considering the matter, found it most advisable to confine the term *tigrinum*, as it is both bold, and very well known by that name.

**maritimum*

**variosum* *MICROMYRTANTHEUM* sub-erect, foliis
(33) paniculatis basi forniculatis attenu-
atis, apice truncatilobis trifurcatis
dentatis, scribis sub-filiformi.

Mouth chap fig-marygold.

Introduced.

Flowers September.

A new and very pretty species.

OBSERVATIONS.

Two and the two left plants have been considered by many as varieties only of *Rigens caeruleum* Lin. from which they differ as essentially as I could wish plants to differ from each other, the left of the two is known in the nurseries by the names of the mouth chap fig-marygold and *rigens* var.

DESCRIPTION.

Root, stems, basally woodyish.

BRANCHES, in very old plants some inches long, and numerous, forming a fine tufted plant; in young plants none at all for many months.

LEAVES, sessile at the base, rigidest when young, resembling the gaping jaw of a small quadruped, the denticulations on each side representing teeth; when old, the leaves expand, or even recurve, all the leaves are very

L 3

glaucous,

glossous, only about a fourth part as large as any of the three last described species, and often roughly punctate.

POUCTURES, lucid, rather elevated into small tubercles than sunk in the body of the leaves, whence a roughness is frequently, not always perceived on the surfaces of them.

FLOWERS, small yellow; I have no specimens of them.

PANICULAE,	} I have had no opportunity of examining.
CALYX,	
STYLIS,	
CAPITUL, &c.	

Solanum MIMBRYANTHEMUM foliis dubio-
sissime paniculis punctatis, caule erecto.

(18) *Lia. Spec. plurimum.* 439.

Syl. Fig. Linc. Ser. 1. 383.

Genl. Syl. Nat. tom. 8. 347.

Art. Hort. Kew. 1. 193.

Gardn's Magazine. 1. 32. (*excellent.*)

Hort. Hort. Kew. 155.

Roxb's Choisy. 139. *Majus.* 18.

Nat. Des. ed. 7. Majus. 41.

Griseb's Hort. Mexic. 244.

Wight's Nurseryman. 1. 172.

Wight's Cat. 160.

Swet's Essay. 48.

Hatched leaf'd fig-marygold.

Native of the Cape of Good Hope.

Cultivated

Cultivated 1794, Alt. K.

Flower May to November.

OBSERVATIONS.

Root, perennal, Shrub.

PLANT, upright, short, by age acquiring a short, shrubby, erect, branched, stem.

BRANCHES, spreading, numerous, short.

LEAVES, impunctate, coriaceous, glaucous green, deltoidiform.

FLOWERS, rather more than half the size of those of *caninum*, of a much brighter yellow colour, opening in an evening, about the hour those of *caninum* close, and lasting about ten-ds.

PEDICELAS, from one to three, or more, terminating the branches, usually furnished with a pair of foliaceous bristles.

CALYX, five parted, segments nearly equal, some of them membranaceous.

PETALS, linear, aristate, intine, numerous, of a fine bright yellow colour.

FILAMENTS, length, yellow, expanding.

ANTHERAS, yellow, pollen, yellow.

GERM, fleshy, turbinate, as if truncate, obscurely five angled.

STYLES, five, very long and slender, yellow, expanding or curving back.

CAPITUL, cartilae, truncate, obscurely five angled, with five filiform aristate

• L. 4 feelings,

feelings, placed on its top, which are grooved along the middle, and answer to the number of cells in the capsule.
 Seeds, small, on five cells.

**dolabr.* *MUSCIMONTANUM* Solms (sub-*dolabriformoides*) *trifurcatus* punctatis, cruke densa.

(39) Lesser hatchet leav'd fig-marygold.

Introd.

Flower

A new *genus*.

OBSERVATIONS.

I have formed the above character from having seen the plant only at Kew: it appears distinct from *dolabriforme*, (a starved plant of which it greatly resembles) in being about half as large in all its parts, in having a weak, very short, apparently scaling stem, and green leaves, of a shape somewhat acinariform-hatched, or between cyrtar and dolabriform.

The whole plant appears less glaucous.

M. dolabriforme of Linnæus, has a stout, thick, short, branched, stem.

M. dolabriformoides, has a short, weak, small stem, apparently incapable of supporting itself.

It likewise differed, in its eye, much after the same manner as *deflexum* Art. K.

differs

differs from emarginatum Ait. K. the former of which has leaves and flowers similar to the latter, but wants its upright firm,

difforme *Messerschmiedtium folia difformibus*
(40) *punctatis comatis.*

Spenn Pl. 699.

Ait. Hort. Kew. 2. 195.

Fraxin Africanae hinc procumbens longifolia folio, Herm. Par. Est. 168.

Deform'd fig-marygold.

Native of the Cape of Good Hope.

Cultivated 1772, Ait. K.

Flowers almost the whole year.

OBSERVATIONS.

THE above are all the synonyms I will to apply at present to this species, on account of its near approach to the next mentioned plant, which, however, is as nearly allied to angustum and longum, as to *difforme*.

DESCRIPTION.

Root, fibrous, fibres very white, and covered, whilst very young, with woolly hairs, resembling white mould, which are best observed on the fibres, as they protrude themselves through the hole in the pot.

PLANT,

PLANT, whilst young fleshy, acquiring by age, a short branched decumbent stem.

BRANCHES, extremely short, alternate, crowded, and arising from the axilla of the leaves, invested with the permanent withered sheaths of the leaves.

LEAVES, coriaceous, covered with minute lucid punctures, deep green, varying astonishingly in their different periods of growth, and from the different age of the plant which produces them. In young healthy plants, before they acquire any firm, exceeding long, that is, from three to six inches long, in a young drawn plant in flower before me, some of them even seven inches long, of different shapes, some of them fan-shaped from the base upwards, with a kind of half twist from the middle to the point, where they are compressed triquetrous, or acediform, or inclining to delatiform at the very point, with a sort of lobe-like tooth near the point, which often terminates in a cartilaginous hair, or horn-like bristle, which is either straight, or curved, or hooked; other leaves without either a tooth or lobe-like rising, but hooking down, or gibbous near the point, or with a hollow above, one side

side of which forms a ridge-like eminence. Some of the leaves angular, most of them from a quarter to half an inch broad in a plant before me, which has acquired a short stem, some of the lower leaves of which are not above one inch long, others to four inches long, the youngest of which are rather cartilaginous towards the points, all of them more or less oblique, with some vestige of a tooth upwards, and some of them, towards the top, microscopically ciliate.

FLOWERS, arising from the side of the leaves, large, yellow, opening in the forenoon, and greatly resembling those of linguleformæ of their conservation.

PEDICELS, or rather scape, as the plants flower in the open air, extremely short, or linear say, except you call the quadrangular base of the calyx so.

CALYX, almost four parted, irregularly quadrangular, very fleshy and large, segments unequal, acute, and sharply keel'd; the lesser ones membranaceous.

PETALS, very long and sericeous, narrower than those of any linguleformæ, bright shining yellow, changing as they die, to reddish suffron.

FILAMENTS,

FILAMENTS, very numerous, of different lengths, some of them very long, yellow, expanding.

ANTHERAS, small, yellow, pollen, yellow.

GARMS, when cut longitudinally with a sharp knife, each of its segments exhibits the shape of a paper kite; when entire, it is pear or fig shaped, strongly marked with eight ribs or angles, grooved on the back, and girt with a fleshy ridge.

STAMEN, eight, in the flower I have just dissected, and which is the only one I have living, expanded flat, with incurved points, at least the eighth of an inch long, ragged, or feathered all their length, with short fleshy substances.

CARPALS, fleshy, small for the size of the ovary, eight cell'd in the only one I had to cut, pear or fig shaped, eight angled or rib'd, angles grow'd along the backs; when cut horizontally, displaying eight small handsome triangular cells, and eight handsome cartilaginous, scissate, or reflecting lamellate white partitions, opaque in the middle, with a fleshy green pop or spot, separating them in the center.

SEEDS, very few, very small, white, while in the growing capsule, kidney form,

(on

(in the microscope) smaller at one end, hunched, or thicker at the other, attached to filaments or pedicles, and swelling in the carnosé pulp of the cells.

ADDITIONAL OBSERVATIONS.

Two leaves (in young plants particularly) grow in an ascending posture, and point nearly two ways, that is, have very little tendency to cross each other; they are of a firm texture, when properly supplied with water, and their flattening or concave parts are considerably higher on one side than the other, in some of which particulars they differ very much from the next described plant, which is now growing before me.

- crucia- *MIMANTHASTMENT* *crucis folii* *le-*
 tum. *mychodactis subulata sub-difforni-*
 (41) *bus, tomentosa, caulis, pinnatus,*
 cruciatum pinnis.
Floris alba; folia longiora, angusta, laevia,
 cruciatum pinnis *Benth. Ind. ed. Hort.*
 Lep. Bot. port 1. 191.
 Dwarf cruciate fig-marygold.
 Native of
 Introduced
 Flours May to November.

OSER.

OBSERVATIONS.

THIS is a very fine looking plant, and much resembles *diffusa* and my *angustum*; it is intermediate, and I think distinct.

I find no description of it in any work I have, except the above *Index alt. H. L.* of Boissiere, a work which I have just procured, and shall in the following part of my observations refer to. In it too, I am not a little pleased to find the genus divided into sections, which are not totally unlike my own; had I seen them sooner, I might perhaps have profited by them.

DESCRIPTION.

ROOT, perennial, fibrous; young roots clothed with woolly hairs.

STEM, nearly smooth, very succulent.

BRANCHES, none in young plants; in very old ones, very short; gross stems or branches are squarish, like those of my *legumiforme*, and not so long as those of *diffusa*.

LEAVES, between opposite and perfoliate, pinnate, usually pointing four ways, especially in young plants, whence the term *cruciatum*; imbricate, deep shining

fining green, with various sized polychred roundish spots, very gross and succulent, covered with a thin skin, and soft to the touch, not all shaped exactly alike, some of them being semicylindric, with bluntly, triquetrous, obliquely curved points, and turgid on the upper surface, about three inches long, and one broad at the base; others semicylindric, tubulate, narrower, longer, and somewhat obliquely twisted, departing a little from the cruciate pecture of the others; all the old leaves appear fleshy on the upper sides, particularly near the base, where they are somewhat dilated and broader.

FLOWERS, solitary, large, yellow, scarce so large as those of *difforme*, arising from the bottoms of the shortest leaves, and supported on peduncles, or rather sapes.

PEDUNCLES, one or two inches long, declining; in the specimen before me, between semicylindric and ancylliform, or angulately ancylliform, (edges rounded) deep green, excessive gross, of an equal thickness to the very calyx; whereas the pedunculi of the *M. difforme*, to which this plant is closely allied, are upright, very short, and not of an equal thickness.

CALYX,

CALYX, four cleft, but not quadrangular, segments unequal, a outer shorter keel'd, with thin edges and blunt points, a inner longer, very broad and thin, without keels, composed chiefly of a broad thin membrane, which closely envelopes the parts of fructification before the expansion of the flower.

PETALS, numerous, some of them end nick'd, not quite so long as those of diffuse but broader.

FILAMENTS, very numerous, short, yellow, expanding.

STAMENS, large, oblong, furrow'd on both sides, and end nick'd, yellow.

GRAM, very small for the size of the plant.

STYLUS, short, nice in the only specimen I have to dissect.

CAPITUL, small, for the size of the plant, uterine downwards, with a hollow or a canal at the top, nine angled or nine grooved, nine celled.

SEEDS, numerous, small.

**lingulæ* *Mammeyastrium* acule foliis linearibus
(48) *auri-lingulæ* *auribus* longis *auri-cylindricis*.

Narrow tongue keel'd fig-marygold.

Introduced

Nutts

Native

Flowers September.

A new species.

OBSERVATIONS.

THIS is the plant which is known to form by the name of *lingaeforme angustifolium*, being much narrower, and less tongue form, and indeed more akin to *prospice* and *cruciatum*, than any of the tongue leaved plants of this tribe.

I HAVE no specimen of it, the leaves from what I recollect by feeling them at Kew, are from three to four or five inches long, and about a quarter or half an inch broad, pointing two ways, plane-ish above, and convexish below, nearly of an equal thickness throughout, and ending in blunt points.

I BELIEVE it to be distinct from the other *lingaeforme* species, and find no certain mention of it in any author I have consulted.

longum *MELISSASTRUM* *folia* *linga-*
(43) *formibus longioribus subequalibus, pe-*
ductulis elongatis.

Myrsine. linguaeforme A. LAM. (*Sp. pl. 693.*)
note given the first of the following au-
thors.

M

Myrsine.

Myrsine, folio lanugineosa longior, Will. sub.
1788, t. 185, p. 127.

Myrsine, lanugineosa, & Syst. Nat. Gen. num.
8, 348.

Flindley affinis. acutius foliis longioribus, crassius,
lobulis conjugatis forte minus ampliuscula,
Russ. Ind. alt. Hort. Lug. 1783, part
1, p. 692.

M. lanugineosa longior, Willd.'s Nartheyman,
v. 1, 179.

M. lanugineosa longior, Willd.'s Cat. 1801.

M. folio lanugineosa longior, Russ. Chel.

Myrsine, 43. Will. Dic. ed. 3.

Long tongue has'd fig-marygold.

Introduced

Native of the Cape of Good Hope.

Flowers almost all the year.

OBSERVATIONS.

Mr. ARNOLD does not notice this plant
in his *Florus Kewensis*, but I have
seen it very fine at Kew.

DESCRIPTION.

ROOT, perennal, fibrous.

PLANT, nearly branched, ascending by
sprouts a very short stem.

LEAVES, lanuginous, very long, and succu-
lent, deep green shining, and point-
ing two ways.

FLOWERS, arising from the hollows of the
thickest

strongest leaves, very large, yellow, glaucous, two or three inches in diameter, supported on long petioles, or scape.

PETIOLES, two inches long or more, ascending nearly triangular.

CAULS, four dist, segments unequal, those outermost of them with an acute keel, and membranaceous edges, lying over the innermost, which is much less.

PERIA, bright yellow, broadish, linear, long.

FILAMENTS, long, yellow.

ANTHERA, oblong, of a fine yellow colour, pollen bright yellow.

GERMEN, very obtuse, ten angled, or ten grooved.

STYLUS, ten, short and yellow.

CARVELA, ten cell'd, ten angled.

SEEDS, numerous small, ripe when I have not seen.

- *papla-
gor
(44) MINIMISTANTHUS fella longu-
formibus lenticulis pericarpibus, jun-
oibus ciliato-pubescensibus, angustio-
sibus apice incurvis.

DESCRIPTION.

Root, perennial, fleshy above, and emit-
ting various fibres, which are not

is thickly clothed with down as thick of the other linguiform'd species.

PLANT, herbaceous, intermediate between my linguiforme and longum, but distinct, as will appear by comparing my descriptions of the three.

LEAVES, in the fine specimen now in flower before me, perfoliate, lucid, faintly impunctate, exceeding fleshy, fat, and soft to the touch, more so than any other Maleschryanthum I am acquainted with, on which account I have named it *propinqua*, (very fat,)—of a pale green, and covered with a thinner skin or coat than the other tongue leaved species, whitish and shining near their inner sides,—or as if frosted over with exceeding minute papille,—when young rather narrower than when old, and edged with minute cilia, or a pubescence,—of different shapes and lengths,—when old broadest,—some of them linguiform, with points obliquely incurving, like those of *diffortae*,—some between hemicylindric and linguiform,—others narrower, longer, oblong linguiform, without any oblique curve or ridge near the points,—others with subulate triangular points, bent and ending in harmless white bristles, or short points,

points,—and a few, with broad compressed, suboboliform broad points, ending in short white bristly hairs.

FLOWERS, not so large as those of my *haguelornae*, of long duration, and a bright shining yellow colour, nearly sessile.

PARENTS, or rather flaps, if any, exceeding short, arising from the bottom of the shortest leaves, rather angular and smooth.

CALYX, four cleft segments unequal, all with membranaceous edges, and obtuse ends, two of them longer than the others, with broad plain dilated bases, triangular points, and slightly membranaceous edges,—the other two shorter, every way farrounded, with broad fine brownish articulated membranes.

PERALS, bright shining yellow, broad, heart-shaped, and at the points, and behind-crooks,

FILAMENTS, numerous, erect, expanding, short, of different lengths, yellow.

ANTHERA, large, numerous, oblong, deep yellow, pollen yellow.

STYLI, eight, as if united below, occupying the deep hollow on the crown of the germ, expanding above, rough, with shaggyish silky hair like *fabaeae*.

M 1

GERM,

GREEN, not small, with a large deep hollow or navel at top.

CAPULES, small, and grooved or angled,—angles blunt, as if truncate above, with a large deep hollow or navel,—slight reflex.

SEAMS, few, 11 pecks 137; not seen; small.

Agave-
form
[45] *Mammey ranswerve foliis linguiformibus late obtusis, junioribus angustis brevioribus, floribus brevifloris pedunculatis, calycibus laciniis subtriloculosis curvatis, cunctis ellipticopulcherrimis.*

M. linguiforme, n. *Sp. pl. 699.*

Lin. refers the plant to Mispale, folio linguiforme angustius. DILL. Herb. 131. t. 185. f. 117.

Mispale linguiforme, n. *Art. Hort. Kew.* who also refers to *DILL.*

Mispale, n. *Rand's Chelsea*, 131. who likewise refers to *DILL.*

M. linguiforme angustius, *Wright's Nurseryman*, 1. 173.

M. linguiforme angustius, *Wright's Cat.* 162.

Mispale, *acule folio linguiformibus longius pedunculatis brevioribus* *Mill. Gard. Dic. ed. 7. Mispale. 447*—Miller only describes one species with angled leaves, in the 7th ed. of his *Dic.* viz. the present one and *lingum*.

Parvula agra aculeis, folio linguiforme, trifolium, laciniis, angustius, brevioribus,
flor

Stem erect, simple, pubescent below. Bark, Ind. ab. Hist. Voy. Bot. Pers. 1. page 192. Flender 7. of the 3d folium.

Tongue toward fig-marygold.

Introduced

Flowers almost all the year.

OBSERVATIONS.

Root, perennial, covered with a fleshy bark upwards, and emitting innumerable divaricating fibres.

Stem, none at all in young plants, but a very short prostrate stem is acquired by age, which is roundish, grooved, and covered with the decayed leaf sheaths of the plant.

Leaves, five green, pointing two ways, and lacin, tongue-form blunt, with blunt edges, one of which is rather thicker than the other, destitute of the cartilaginous rim, at the base of the leaves of *M. scolymus*, and more obtuse, and nearly as long, the inner or younger ones much narrower and shorter than the outer.

Flowers, yellow, solitary, arising solitary, from the central leaves of the plant, near three inches in diameter when fully expanded, and nearly as large as those of *Scalpusus*, constantly furnished with very short peduncles, open-

ing in the morning, and making a fine appearance.

PERIOCTA, or rather *flap*, some half an inch long, thickening very fast upwards and quadrangular, drawing their angles from the horns of the calycine partition.

CALYX, fleshy, four parted, flabbed with small and distant tubercles or lacerations, each part proportionably slender, longer, and more acute than in *Scalpentum*, two and sometimes three of the parts rather larger than the fourth, which in the specimen before me, has a very large transparent somewhat reticulated membrane, bearing no distant resemblance to the wing of an insect. The horns of the partitions are more sharp than those of *Scalpentum*, and finely edged with a shining pubescence, which I have not detailed in *Scalpentum*.

PETALA, of a fine yellow within, whitish yellow on the outside, mammosa, linear, but bend for a *Microbryanthemum*, and firmly united at the base, shorter and narrower than those of *Scalpentum* and more acute, with nearly more than one notchlet at the point, and often more.

PALA-

FILAMENTS, numerous, of different lengths, inner ones shortest, expanding, yellowish.

ACTINIA, oblong, yellow, smallish for the size of the flower, paler, yellow.

STYLA, ten, short, expanded, or recurving, planate, fleshy.

GOOSE, depressed, fleshy, with a navel at the top, ten angled, angles blunt, looking like ribs, grooved along the back, and yellowish green.

CARVER, fleshy, small, for the size of the plant, ten angled, angles blunt, and grooved down the back, ten coiled, coils filled with numerous seeds.

SEEDS, whilst the plant is in flower, nothing in the fleshy cells of the capsule, white, kidney-shaped, attached to small white curving filaments.

R E M A R K S.

As a corroborating testimony of this plant's being specifically distinct from the other isogone-formed species, I may add, that I have raised upland at different times some dozens of young plants of it from seeds, every one of which proved exactly like their parent in every particular.

THE seeds were gathered from the living plants as they grew on the shelf of a green-house, which held above forty species, promiscuously arranged.

Latin. *MAMMILLARIUM* foliis longi-
(45) formibus breviusculis laevibus,
longius subuliferis.

Mexico. Aguascalientes & *Sp. Pl.* 699, where
Lin. refers to *Mexico. Aguascalientes* *latere*
Dill. Edb. 176 t. 184 f. 224.

Mexico. Aguascalientes & *Art. Hist. Mex.*
2. 195.

Mexico. Aguascalientes *latere*, *Wright's Nursery-*
man, 1. 171.

Mexico. Aguascalientes *latere*, *Wright's Cat.*
182.

Mexico. Aguascalientes *latere*, *Rand's Cat.*
131. No. 6.

Keller has it not in the 7th ed. of his *Dir.*

Flowers often *scarious*, *foliis* *longiusculis* *res-*
plendens, *deciduis*, *compositis*, *per* *se*
simple, *per* *pedunculatis*, *Bark.* *Ind.* *at.*
Ber. Leg. Bot. *part* 1. p. 152. No. 6th

OBSERVATIONS.

THIS plant is closely allied both to my
longicaule and *scalprosum*; I look
upon it intermediate between the
two, but distinct from both, and such

(A

(it appears by the synonyma above)
were the opinions of DeCaisne and
Boissieu.

I save from the plant and in flower,
but as I have no specimen proper for
description, can only say, that its
principal difference from my lingu-
formis is, in its being rather a broader
leaved plant, whose young leaves are
nearly equal in length and breadth
to the old ones; which is by no means
the case in my linguiformis. There
is also a difference in the flower and
footstalk, which as I have no specimen,
I cannot particularise.

M. LATUM differs from *M. scalpratum*
in being far less, and in having no
cartilaginous eminences on the inner
bases of the leaves.

ARE from *M. linguis*, in wanting the
long peduncles of that plant, and in
having leaves scarcely more than half
as long.

FROM angustum, in having much broad-
er and shorter leaves.

ARE from *M. prorepens*, in being of a
much denser, firmer, and more opake
succum, with regular leaves.

Scalpr- *MINIERTANTHEMUM foliis scalprati-*
tum *formibus latioribus, altero margine*
(45) *collato, basi marginis cartilagineo-*
gibbosis.

gibbosa; calycibus glaberrimis; lobis
maxime scissis, petalis apice
crenulatis.

Mysine. angustata, Lin. Sp. Pl. 699.

Lin. refers to Mysine. folia foliata, Will.

Tab. 215. t. 183. f. 224.

Mysine. angustata, Bth. Nat. Gen.
Tom. 2. 245.

Mysine. angustata, Bth. Fig. Lich. Ser.
1. 186.

Mysine. angustata, a. Bot. Hort. Kew. 2.
195.

Mysine. angustata, Bot. Hort. Kew^d

Mysine. angustata, Bth's Essay, 62.

Mysine. angustata, Wight's Madrasen,
1. 176.

Mysine. angustata, Wight's Cat. 162.

Miller has it not in the 7th edn. of his Dic.

Mysine. folia foliata, Bth's Chesh. 131.
No. 5.

Paridee. atra aculea, folia alba longiuscula
crassiuscula lentic, fere cava, angulo, fere
pedunculata, Barb. Ind. ab. Hort. Lug.
Bot. part 1. 292. No. 22.

Roundest tongue leaved fig-marygold,
introduced.

Native of the Cape of Good Hope.

Flowers almost all the year.

OBSERVATIONS.

Root, covered with a very fleshy bark
upward, rectifying below into various
large white strong fibres.

SEEDS.

Stems, none at all, without the plant is very old, and then extremely short, prostrate, grob, and covered with the rubbish of the decaying permanent sheaths of the leaves.

Leaves, of a lighter green than the other tongued species, at the base often whitish green, not very confluent to any exact shape, said to be scalproform (that is, like a grover's tool) by *Dilleni*, and called linguiform, by *Linnaeus*; they are smooth and hard, very broad, often two inches over, but often less, much thicker on the under edge or margin, than the upper, so much so, as often to form three angles, the upper of which is remote from the other two, and sometimes edged with a thin whitish cartilaginous membrane; a white cartilaginous gibbosity or ridge is also present at the inner base of most of the leaves, especially the young ones, in which respect *Scalprotum* differs from all the other tongue-formed species.

Flowers, solitary, sessile, arising from the axilla of the shortest leaves, extremely large, measuring from three to four inches in diameter, the specimen before me, when expanded to the utmost, extending in two di-
rections,

pedicels, somewhat beyond the fourth inch on the stalk, which is by six; but it is a flower unusually large. The flowers are of a glittering yellow colour, open in a forenoon, and make a showy appearance in the Winter season, particularly when arranged with other fig-marygolds.

PEDUNCLES, or rather *scapes*, none.

CALYX, large, fleshy, irregularly quadrangular, attenuate downwards, funnel-shaped, and four cleft, or parted, segments, two, somewhat longer than the others, not furnished with such large membrane, and sharply cuneate; all of them blunt, and more or less membranaceous, the two shorter having very large irregular diaphanous membranes.

PETALS, fleshy, and united at the base, of a shining glossy yellow colour on both sides; almost diaphanous near their edges, linear-oblong, broader than in any *Microbryanthemum* I have seen flower; attenuate at the base, of nearly equal length, most of them with from two to four minute irregular notched, or serrated, at their very blunt point.

FILAMENTS, very numerous, long, yellowish, stout, and of various lengths.

ANTHERS,

ACTINELLA, not large for the size of the flower, oblong, tubular, pollen yellow.

CAULIS, pea shaped, not very large for the size of the flower, ten angled, with a hollow or canal at the top, and grooves along the back of the angles.

SEPALA, ten, the eighth of an inch long, expanded, fleshy and fleshy, or bearded on the upper side, bare on the underides, looking as if knit'd.

CAPITULA, in the growing flower before me, ten or eleven cell'd, but dryish, with a large dryish fleshy center, to which the pistilium soon affixed; cells small and dryish.

STAMINA, several in each cell, small, not resting in fleshy pulp, affixed to filaments, as in many other, perhaps most species.

ML. SCARLETTA principally differs from the other tongue bar'd species in its larger, broader, cartilage-bell'd leaves, and larger little flowers.

+++ CAULESCENTIA FOLII PLANI.

MANISTANTHUS foliis angustifolius, caulis, (spiculis cernatis, papulis cernis scabris, petalis minutifloris.

Act. Hist. Nov. 2. 179.

Syl. Nat. Hist. Nov. 2. 144.

Harrow

Narrow leav'd leaf fig-marygold.

Nat. of the Cape of Good Hope, Ait. K.

Introd. 1774. Mr. Fr. Muffon, Ait. K.

Flowers July and August, Ait. K.

OBSERVATIONS.

THIS is one of the Kew Catalogue Species, which I have not seen; it is a shrub, according to the Hort. K.

cardifolium
 (44)

MESEMBRYANTHEMUM foliis cordatis
 oblongis, cuneatis pediculis.

Supplem. Plant. r60.

AP. Hort. Kew. 2. 182.

Syl. Pag. Lich. Ser. 1. 383.

Class. syl. Ser. 2. 11. 1. 1. 1. 1.

South Afr. Bot. page 6. plate 6. cordifol.

Syl. Nat. Genl. Tem. 2. 844.

Hort leav'd fig-marygold.

Nat. of the Cape of Good Hope.

Introduced 1774. Ait. K.

Flowers all the year.

OBSERVATIONS.

AFTER the accurate and minute account of this *Meibomia*, in the *Spidegum Botanicum*, little remains for any one to add.

BUT as the following description of it was drawn up from a living specimen, before

far: I even thought of the above-mentioned account, I am tempted to infect it.

DESCRIPTION.

PLANT, becoming shrubby by age, if kept in the house, and diffusely trailing, if left to itself in the open air, prostrate, extending many feet every way, dying down with the first sharp frost, but growing stiff by seedlings, which appear the following season.

LEAVES, petiolate, (a most rare circumstance in this genus) the largest hearted, the lower often ovate, covered with minute spreading papillae.

PERICLIUM, short, axillary, one flowered.

CALYX, four cleft, segments unequal, two short sterile, subulate, — two foliaceous, ovate, large, shining with minute crystalline papillae.

FLOWERS, numerous, sub-axillary, very small, bright purple, opening in a forenoon, and remaining open some time.

PETALS, linear, numerous, in several series, and not all of equal length, far shorter than the calyxine leaves.

SEED, large, — seeds many, large, soon vegetating.

N

REMARKS.

R E M A R K S.

I HAVE seen plants of this *Melampyrum*, when planted out on a south border, and in the East Riding of Yorkshire, not only cover many feet of ground with their trailing prostrate stems, but flower abundantly, and perfect seeds, which vegetated the following season, and became in every respect as fine as the plants which produced them, but suffered from the last severe frosts, but not before they had also perfected seeds.

I HAVE also seen a small cutting of this *Melampyrum*, planted in a six-inch pot, and never shifted, take root, and in two years extend two trained branches along the rafters of a greenhouse, above six feet, flowering and perfecting seed all the time; after which, it was broken by an accident, and thrown away, but its extreme points were growing busily at the time it was destroyed.

I KNOW of no other *Melampyrum* capable of extending its branches such an amazing length, in so small a pot.

corlifo-

cordifo-
rum
album
(50) **THE** *M. cordifolium* is placed in the white flowered section, both in the Syst. Veg. Lich. Soc. and Gen. Syst. Nat. but with us the flowers are constantly purple, not varying from such in the least respect.

LIN. the *fo.* in Suppl. Pl. above quoted, conjectures the flowers to be white, which is possibly the reason of its being referred to the white sections of those two books, at least, if we may suppose, these authors never saw the living plant in flower.

expansum
(50) **MESSEMERIASTRUM** foliis planifolius
lanceolatis impunctatis petiolibus, dis-
tinctis oppositis alternisque remotis.

Species Plantarum, 647.

Father's Gaz. 2. 76. f. 10. is referred to by *Lin.* but it is not very expressive, resembling *verrucosum* almost as much as this *Species*.

Syst. Veg. Lich. Soc. 1. 383.

Syst. Nat. Gen. Fam. 2. 344.

Atl. Hist. Kew. 7. 2. 181.

Hist. Nat. Kew. 155.

Wight's Nephrolepis, 1. 179.

Wight's Cat. 162.

Soot's Essay, 60.

Mémoires. 3. *sur les Plantes suspendues en-
vers le Nord. Chiff.* 132.

Myrt. 38. *Mit. Dir.* ed. 7.
 Housleek leav'd fig-marigold.
 Nat. of the Cape of Good Hope.
Cultiv. 1705. *Art. K.*
 Flowers Junc to August.

OBSERVATIONS.

I HAVE no specimen of this plant by me
 proper for description; it is common
 in collections, and I have seen it flower
 abundantly this season, it is allied to
tortuosum and *pollan*; it is interme-
 diate, but extremely distinct. Lin-
 naeus places it in his yellow section,
 Mr. Aiton in his white.

tortuo- *MINISTERTASTREUM* foliis planifol-
-um lis, oblongo-ovatis sub-papillois, con-
 (51) fertis, coccinis, calycibus triplois
bicornibus.

Spoken Pl. 697.

Syl. Fig. Lichl. Soc. 384.

Syl. Nat. Good. Tem. 2. 347.

Art. Hort. Kew. 2. 197.

Mit. Hort. Kew. 155.

Wight's Marjorana. 1. 172.

Wight's Cat. 161.

Swal. Efig. 61.

Myrt. 4. *Rand. Choisy.* p. 170.

Myrt. 37. *Mit. Dir.* ed. 7.

Tortuosa

Tortuosia fig-marygold.

Native of the Cape of Good Hope.

Introduced.

Flowers July.

OBSERVATIONS.

This plant resembles the *expansum* in several particulars; by age it acquires a considerable stem, furnished with various winding or crooked decumbent branches, which finally become woody. The leaves are of yellowish green, those of *expansum*, a true deep green—I have no specimens proper for description. The young leaves when just beginning to open or separate, have a very striking resemblance to the beak of a bird.

pallens *MISSOURIANTHUS* foliis oppositis
(51) amplexicaulis distinctis oblongo-lanceolatis, acutis, obscure ciliatis, papulis minutis.

Ar. Nov. Krae n. 183.

Sppl. Nat. Gen. Tom. n. 823.

Pale fig-marygold.

Nat. of the Cape of Good Hope, Art. K.

Introduced 1734, Mr. Fr. Malles, Art. K.

Flowers July to October.

OBSERVATIONS.

I HAVE changed the English name of this plant, from channel leaf'd, or pale, for the term channel'd will more properly belong to the plant I shall call *canaliculatum*.

DESCRIPTION.

PLANT, at first, apparently herbaceous, but becoming shrubby by age.

BRANCHES, prostrate, spreading in various directions, nearly cylindrical.

LEAVES, on the barren branches glaucous, but not white, mostly opposite, oblong-lanceol at the fertile or flower bearing branches, channelled above, bluntly keel'd below, and covered with minute papillæ. Those of the flower bearing branches, alternate, hearted at the base and stem, clasping.

FLOWERS, large, clear white, pointing two ways, disposed alternately at somewhat distance, in a loose trailing dichotomous kind of a panicle, opening in the forenoon, and continuing open several hours.

PERICARPS, long, somewhat angular, expanding, silky, when there are two lobes near each place of their insertion;
when

when only one, they arise from the joint opposite each leaf.

CALYX, mostly five, sometimes only four cleft; when five cleft, three of the segments are broad, plain, and foliaceous, the other two much less, sub-keel'd and membranaceous at the edge, with very minute subulate points.

PETALS, very white, of unequal length, linear, straggled, longer than the greatest segments of the calyx.

FILAMENTS, yellowish, expanding, of various lengths, innermost gradually the shortest, four of them appearing as if hooked, being of a thimble-like nature, and bearing half formed unsertile anthers on their laminae.

ANTHERS, yellow, pollen, yellow.

GERMEN, oval, not visibly angular.

STYLIS, five, yellow, long, sessile, stigmas simple.

CAPULE, five cell'd, filled with small seeds.

††† *SUFFRUTESCENS* *POLIS* *SUBTUS* *ROTUNDATIS.*

viscidiflora. *MINISTARTANUM* foliis sericophyllo-
dracis papuloso-pilosis, calycibus quin-
quedecim loricatis.

Ar. Her. Kew. n. 1946.

N 4

242

Syl. Nat. Glad. Tem. 2. 848.

Green flowered fig-mirygoid.

Native of the Cape of Good Hope, Mr.
Fr. Malton, Art. K.

Introduced 1774, Art. K.

Flowers July to November.

OBSERVATIONS.

Root, perennal, fibrous.

Stems, woodyish below, covered with a
greyish coloured bark, and emitting a
scent when bruised.

Branches, the principal or lower ones,
mostly opposite, arising from the ax-
ils of the leaves, decumbent, and fi-
nally casting a globosity on each side
of the stem at their origin, from the
continued swelling of their somewhat
thickened bases, whilst young, smooth
and papulose below, covered higher up
with piliferous papulae, and at the up-
permost parts with short, numerous,
horizontal hairs.

Leaves, dark green, opposite, coriaceous,
or rather perfoliate, sheathing the stem,
sessile, linear, very blunt, channelled
above, rounded beneath; lower ones
trifid, incising, imbricate, casting
each other in pairs, shining, smooth,
papulose, and resembling the leaves of a
chain as they lie on the stems, upper

ones

seeds expanding more and more diffuse, pointing obliquely upwards, and effuse at the base, with pilosecent papule; uppermost seeds often alternate, covered every where, but chiefly towards the bases of their edges and horns, with pilosecent papule.

Flowers, in the specimens before me, terminating the weak trailing branches, from one to five in number; when three or four, they form a small dichotomous kind of a panicle; when five, they arise axillary from the alternate leaves of the stem, and form a kind of spike, which curves sharply upwards, if the branches are suffered to trail in their natural posture. The flowers are of the diameter of a shilling, when fully expanded, quite green, inside and outside, and open in the forenoon.

Fructicles, cylindrical, covered with tomentum extremely short horizontal hairs, at first appearing of a considerable length, spreading at the base, and as if furnished with from one to three alternate bracted leaves, resembling those of the stem, but less, which finally prove themselves no bracts, by protruding from their axils young
alternata

alternate shoots, the potential sources of future flowers.

CAULIS, ovate, very obliquely pentagonal, which only appears on cutting it, horizontally slender, length, densely covered with short horizontal hairs, which in the microscope appear like plicose papulae, five cleft, segments unequal, cylindrical obtuse, papulose-pilose, two of them longer than the other three; three shorter and membranaceous on the edges, one of them only membranaceous on one side, and somewhat longer than the other two membranaceous, all of them foliaceous, or resembling the leaves of the plant, but not channeled.

PETALA, very numerous, as slender as bristles, acutely pointed; when fresh of a bright green colour, of various lengths, innermost the shortest, and often converging so as to exclude the stamens from the sight, and of a yellowish tinge, particularly when expanded the first time; the longest petals after they have been expanded several times, acquire a whitish tinge at their extremities, especially on the outside. All the petals when they decay, coalesce and melt into a pulpy mass, and become almost as soft a matter as the aged gills of a deliquescent agaric.

STAMINA,

FILAMENTS, numerous, very short, but of different lengths, seldom fully visible to the eye in the growing flower, occupying a caving between the germ and base of the slightly united petals, of a whitish green colour.

ANTHERS, large white, nearly square, nicked both ways, with a deep furrow on each side, which gives them almost a daisy-like appearance; pollen whitish.

OVARY, urn shape, five angled, not navel'd at top, very juicy, and green, displaying, when cut longitudinally, all the parts of fructification in view, a most beautiful object to a contemplative mind, either with or without a glass, particularly if a flower is chosen whose petals are just peeping through the calyx, but have never been expanded; such an object I would recommend my readers to select, and I would with them, after looking at it a little with the naked eye, to re-examine it with a moderate magnifier, through which they will see, if the subject is suitably selected and properly cut, a sight that conveyed to my mind both instruction and pleasure.

THE longitudinal section of the flower, represents precisely half an oval, which

is internally composed of three principal groups, of objects or figures, viz. the seeds, anthers and petals, to which may be added, the five erect central styles. The petals are deep green, and by arching, protect the turgid whitish unopened anthers, as yet bog with the principles of life, beneath which appears the urn shaped germ, in whose universally ovate pendulous cells, the infant, and in yet unimpregnated ones, or seeds, are observed to settle, they are white in the early stage, and extremely minute, but sufficiently visible in the glass, and kidney shaped, assisted by capillary filaments or tubes, in regular orders, to the central pillar of the germ, (which appears to be composed of the united bases of the styles, from which the partitions of the capsule derive their origin,) affixed I say in regular orders to the feeding or breast-like centre of the germ, whence deriving life by the white filaments, which are inserted into the body of the seeds, at the base of the funis, which gives them their kidney shaped form. Through these tubed filaments, (as through a navel string,) they doubtless draw that nourishment which confirms and enlarges their existence,

finis.

infused, (like the half-separat'd embryos of an animal deriving life for *from* the maternal placenta, by its umbilical cord,) and through them they are also destined to receive the vivified and vivifying fluids, as soon as it shall be luxuriously communicated from the exploded stems of the rest pollen, to the unfolded, watchful, and recipient funnels of the moist, obeying, voluptuous stigma.

Seen were the ideas which posited themselves to my view, on examining the fructification of *Menyanthes viridiflora*; but to return to the description of it.

Stems, they are five in number, herbish green, subulose, erectish, or erect-patent, stigmata, simple.

CAVITIES, urn shaped, pentagonal, five cell'd, cells inwardly ornate, and whitish young papulose on the inside, partitions five, appearing white in a transverse section of a young germ, bellate, and resembling in miniature a similar section of the core of an apple. In the center of the partitions, when so cut, appear the segments of the united bases of the styles, green and radiating five ways.

Stems,

Scarcely, not very numerous, small, and kidney shaped, ripe ones I have not seen.

- **Spinuliferum* *MISSOURIANSIMUM*, foliis semi teretibus, papuloso - cristatis, stipulis spinuliferis.
(54)

Spinuliferum fig. margold.

Native of

Introduced.

Flowers

A new species.

OBSERVATIONS.

I believe this is entirely a new and most distinct species. I have no specimen of it proper for description, and as the specific character given above was formed from a very small slip of it, it will in all probability admit of considerable amendment from those who have an opportunity of describing the perfect plant, which is very scarce.

- **canadense* *MISSOURIANSIMUM* foliis linearibus teretibus, floribus dichotomis.
(55)

Flesh-coloured flowered fig. margold.

Native

Introduced.

Flowers September

A new species.

OBSER.

OBSERVATIONS.

PLANT, diffuse, becoming shrubby by age.

BRANCHES, yellowish green, decumbent cylindrical, covered with oblong, closely set papule, at first herbaceous, but finally woodyish.

LEAVES, opposite, distich, nearly linear, cylindric, grooved, somewhat flattened on the upper side towards the base, and when quite full grown very slightly bowing back, and rather attenuate each way.

FLOWERS, those upon the specimen before me, pale flesh colour or pale salmon colour, frutish, not in the least fleshy, growing in a dichotomous kind of a panicle, and opening in the middle of the day.

FRUIT, cylindric grooved, thickening upwards.

CALYX, large, covered with larger and more elevated papule than the other parts of the plant, five cleft, segments nearly equal, three longer, and somewhat membranaceous at the edges; two shorter, and destitute of membranaceous, taking the shape of the leaves.

PETALS, just longer than the calyx,
outer

outer ones linear, broadish, flesh coloured; inner ones gradually shorter, narrower and paler, some of them partaking of the nature of the filaments.

FILAMENTS, rather few, white, converging, short, of different lengths.

ANTHERS, few yellow, pollen yellow.

GYNCEA, roundish um shaped.

STYLES, few, short, striate, yellow.

CAPITUL, five cell'd, fleshy.

SEEDS, I have not seen.

ADDITIONAL OBSERVATIONS.

In some respects this plant almost seems to agree with the *M. populifera* of the supplementary plantarum of the younger Linnaeus, which is the *M. Alcockii* of Jacquin; indeed I should almost have been tempted to think them the same, had they not differed in the following particulars.

THE *M. populifera* is described as a biennial plant, with spatulate oblong leaves, according to the supp. plant, and with ovate spatulate ones, according to Mr. Aiton's Hort. Kew.

WHEREAS, my curcuma has a shrubby form when old, and linear sub-cylindric leaves.

Splendens

Flowers, whitish, not showy or large.

- **Saligna-* *MESCHERYANTHEMUM foliis subcylindricis*
-um. *petiolibus, apice sub-recurvatis,*
 (57) *calycibus lacinis sub-aquilibus.*

Falligine fig-marygold.

Native of

Flowers August to October.

A new species I believe.

OBSERVATIONS.

THE plant I am informed has been named *falligatum*, by Mr. Lee, from whose nursery it went to a gentleman's collection under that name, why he named it so I do not know.

I ONLY know the plant from a small specimen, (possibly not a very perfect one,) which I shall describe, as soon as I have observed that the plant is very closely allied to the last described species, the *splendens* Linn. and to the next mentioned one, the *reflexum*, a plant, which I have been told was introduced into this country and named *reflexum*, by Dr. PROCTOR.

FALLIGATUM at present, appears intermediate and may be distinct, but, although I rank it as a species in my list, I dare not assert it to be specifically distinct from *reflexum*, until I have seen the latter flower.

FALLIG-

Festucetaria is abundantly distinct from *Splachnum*, in its calycine leaves, which are almost regular, and not half so large as those of *Splachnum*; it is also a leafy plant, and has leaf leaves, but, in what sufficient particulars, relations differ from *Splachnum*, I am almost at a loss to explain, it however appears a tall, more erect and twiggy plant, with leaves having a much greater tendency to bend back, not only at the points, but from the middle.

DESCRIPTION.

Root, perennial, stems, branched.

PLANT, shrubbyish, branched, only just capable of supporting its heavy crop of leaves in an erect posture.

BRANCHES, when growing in the open air, very numerous and short, almost covered with leaves.

LEAVES, very open, without visible punctures, growing much crowded on the branches, green, or pale glaucous green, varying considerably in shape, according to the degree of warmth or cold they are exposed to; (a variation all *Mcclimbryanthus* are subject to, and which I would always have my readers keep in mind,) in the open air in the summer time, they are cy-

Endric fabriquettes, or *sonicy-endric*. In the bud when drawn, they grow somewhat from each other, left cylindric, and even channelled above from their bases to their points; in all states attenuate both ways, with a slight tendency to curve back at the points.

FLOWERS, the size of a shilling, when expanded, of a whitish ground colour, tinged with lilac, opening in a forenoon.

PARTICLS, only one on the specimen before me, cylindrical or very obscurely angular, and rather thickening upwards, covered, as is the calyx, with extremely minute papille.

CALYX, five cleft, segments nearly equal, scutish, two plain, three with membranaceous edges, in which respect it differs from *splendens*, the calyx of which has five unequal parts, some of which are very large, long, blunt, and foliaceous, that is, resembling the leaves on its branches.

PETALS, very numerous, linear, and very narrow, of different lengths, the innermost gradually shortest, partaking of the nature of the filament, and terminated with white, half-formed unfertile anthers, the outer petals white at the base, tinged with lilac above.

FILAMENTS,

FILAMENTS, numerous, of different lengths, white.

ANTHERS, yellow, pollen yellow.

OVARY, ovate, very juicy.

STYLUS, five, short, erect, subulate, longish, greenish; stigma simple, fall'd in the greatest profusion of yellow pollen.

CAPITUL, five off'd.

SEEDS, I have not seen.

**reflexum* *MIMANTANTHERUM* foliis oppositis,
(53) distichis lanceolatis, apice sub-
muculatis, acutis-reflexis; ramis pa-
pillois sub-wingatis, papillis minutis.

Reflex'd leav'd fig-marygold.

Nat.

Introduced by Dr. Pitschen in
A new species I believe,

OBSERVATIONS.

THIS plant is said to have been introduced into this country by Dr. Pitschen, and named *reflexum* by him.

It appears a slender plant, with more erect-expanding branches than either *spendens* or *falligatus*, above described.

BRANCHES, erect, expanding, arising axillary and in pairs from the before of

the leaves, crossing each other, and communicating to the plant a handsome somewhat pyramidal form.

LEAVES, more inclining to bow back from about the middle, of a slender and more teracylindric form, more channel'd above, and somewhat more glaucous, than either those of *glauca* or *foliatus*.

FLOWERS, I have not seen, and therefore I dare not assert the plant to be specifically different from *foliatus*, (to which it seems nearer allied than to *glauca*;) although out of respect to the name, which was given it by Dr. PROPER, I mark it as a species in the margin.

THIS description is taken from a plant which has stood in a light well-aired greenhouse all the summer, and is now growing before me; it is in a 60 pound pot, two feet high, somewhat pyramidal, straight and hardy; slender, yet strong in the main stem, with numerous erect-expanding, twiggy, stiff, and brittle branches, from six inches to a foot long.

genicali-
florus
(99)

MINIMISTANTHUM, foliis semierectis
tenuis papulosis, floribus sessilibus axil-
lariis, calycibus quadrifidis.

Spens. Plant. 1, 477.

598.

Egl. Peg. Lich. Sin. 1. 382.

Egl. Nat. Good. Tem. 2. 344.

Ab. Hort. Kew. 2. 240.

Hill's Hort. Kew. 154.

Wight's Nurseryman, 1. 168.

Wight's Cat. 161.

Leaf's Essay, 60.

Myrtles, 38. *Rand's Clus.*

Myrtles, 2. *Mit. Dec. ed.* 7.

Fraxinus capensis folio tereti fere affine Pat.

Gen. 1. 78. *f.* 3.

Fraxinus Neapolitana, fere caudata Bernharti's

Index alter Pl. Lug. Bat. part. 1. p. 491.

Joint flowering fig-marygold.

Native of the Cape of Good Hope.

Flowers June to September.

OBSERVATIONS.

PLANT, whitish young, herbaceous, but becoming shrubby by age.

BRANCHES, decumbent, or if near sap-
portum, almost scandent, divaricating
whitish young, cylindrical, of a tender
and herbaceous nature, and covered
with minute pilules, and a dark green,
thick, fleshy, or perhaps rather pulpy
bark, when old, becoming somewhat
lignous, and affording various succose
and caustic distillations.

LEAVES, mostly opposite, not always
so, especially on the flower bearing

branches, smooth, cylindric, channel'd, convex, or rounded below, and concave or channel'd above, and minutely pinnated.

Flowers, yellowish, white, small, making a poor appearance.

Petioles, very short and thick, solitary, remote, one flowered, usually arising from the side of the leaves, but sometimes terminating the branches, and finally ending a jointed or elbow-like appearance on the stem, whence Linnaeus's name *geniculiformis*. They are in truth solitary, and being solitary, occupy the axilla of one leaf only of every pair of opposite leaves, the opposite of which, although it produces no flower like its mate, must not be called barren, for it is in fact, ultimately the most prolific and fruitful of the two, by almost invariably giving birth to, and producing a stem diverging shoot, which forms a continuation of the geniculate and zigzag stem, which, at its first joint, produces another flower and another shoot, similar to itself, and endowed with similar prolific powers, and so on in a manifold series.

This is rather an uncommon habit of growth in this family, although closely followed

followed and imitated by the *M. radiculatum* of these countries, and in a less degree by the *M. pollens* of Aiton's *Hortus Kewensis*, which formerly also went by the name of *radiculatum*; and the habit of my cactus is somewhat upon the same plan.

But to return to the peduncles of *M. goncaliflorus*, they are at first terminal, but soon to be so as soon as the opposite leaf protrudes from its maternal arilla the radicle rudiments of the future branch, which, in its turn, produces other branches, and other flowers, in an increasing chain.

Thus do the leaves opposite the flowers, although barren themselves of flowers, furnish fertile and fecundous branches; so vigorous are the powers of life in this quick growing plant; which, however, in conformity to one of my maxims explained before, I have not seen produce one prolific seed, not even in the most favourable situations.

CALYX, shaded with larger papillæ than any other part of the plant, quadrifid, lacinis, unequal, two, large, foliaceous, channel'd above;—two lesser subey-lindric, with edges somewhat membranaceous.

PETALS,

PETALS, dull, yellow-white, linear, very narrow, filamentous, others end nick'd.

FILAMENTS, numerous, white.

ANTHERS, yellow, sub-didymous, and large for the size of the flower, pollen, yellow.

GERM, when cut longitudinally with a sharp pen-knife, appearing elegantly urn shaped, with a crown or rim at the apex, and a representation of the ear like processes on each side of an urn.

STYLUS, four short, of an herbaceous colour.

CARPELS, fleshy, finally semitransparent, (in which it resembles canaliculatum of these observations,) four angled, nerved at top.

SEEDS, few, settling in pulp, and so far as I have examined, all abortive.

R E M A R K S.

SEEDS root readily from the young shoots; with difficulty from the old, apt to lose its leaves from a bad state of health, and when in that condition, looking quite like a different plant.

Canaliculatum *MINUTISSIMUM* foliis canaliculatis linear-semiobovatis, papulis glandulosis; apice sub-recurvis floribus dichotomis; capsulis, pollicidis.

Chamisso

Chenell's fig-marygold.

Native.

Introduced.

Flowers July to October.

A new species.

OBSERVATIONS.

I maintain this is entirely a new species ;

I have seen it in several collections, but not at Kew ; I have seen it in Dr. Swinfen's Collection at Twickenham, where it is called *pendulum* ; who gave it so vague a name, I know not ; it is enough, if I say the character is too common to all the luxuriant *Mcoubryanthema*, to be received and continued, when a better and more distinguishing one is to be had.

I never have formed a pretty apt and expressive name from the semitransparency of its pulpy capsule, a character by no means common in this extensive family ; but I decidedly give the preference to the term *canaliculatus*, as a character always present to me, however excellent, which is only observable when the plant is in fruit.

DESCRIP-

DESCRIPTION.

Root, perennal, branched, and fibrous.

Plant, when old, of a shrubby nature.

Stems, much branched, prostrate or trailing, if near the ground; pendulous from a stalk, like all other leaf sheathed *Melampyranthem*, herbaceous and round, when young, becoming woody and shrubby by age; young branches, and every young part of the plant, except the firm-trunked caudex, beautifully fudged, with large, spongy, crystalline papule.

Leaves, opposite, distinct, when mature, linear semi-cylindric, channelled above, from the base to the point, but blunt; at the very point, sending mass or keel backward. In a very luxuriant plant I once observed a few of the leaves tightly alternate.

Flowers, produced in a somewhat dichotomous order, numerous, dista, reddish, about the size of those of *hispidum*, opening about the middle of the day, and continuing open four hours.

Pistocules, round, thickening upwards.

Calix, usually five cleft, but sometimes

shows only four dist., figments unequal, generally three of them, sometimes only two, foliaceous; that is, like the leaves of the plant; the others with membranaceous edges, with terminating foliaceous lobulate points.

PETALS, numerous, the outer series larger, whitish, large and sick'd, some entire, the inner series narrower, shorter, paler, intus, some of them partaking of the nature of the stamens, having umbonate half-formed anthers at their points.

FILAMENTS, numerous, whitish.

ANTHERS, yellow, pollen yellow.

GERMEN, fig-form, lucid, or semi-transparent; with grooves or slight channelled lines.

STYLUS, usually five, sometimes only four, long, buff-coloured, with recurving points; figments simple.

CARVELL, beautiful, siciform, and exceeding smooth, lucid and semi-transparent, its cells and grooved lines or channels answering to the number of styles; never more than five, not fewer than four.

SEEDS, few, white yet nestling in the fleshy cells of the vegetating and almost amplexorous capsule, small, brown, and visible to the eye, through the

the semi-transparent pulpy fluid which surrounds them.

Willowia **MAXIMILIANI** *Willd.* *pubescens*
(61) *Willd.* *contains* *imperfecta* *cruc.* *pilula*.

Species Plantarum, 695.

Eyl. Voy. Lich. Soc. 1. 383.

Eyl. Nat. Gen. Tim. 2. 846.

At. Hort. Kew. 2. 184.

Willd. Hort. Kew. 234.

Wight's Nephrolepis, 1. 269.

Wight's Catal. 162.

Swal's Egl. 42.

McLaur. 16. *Mill. Dir.* ed. 7.

Vilosa *herb.* *fig.* *marigold*.

Native of the Cape of Good Hope.

Cult. by Mr. Ph. Miller; see *Mill. Dir.*
above quoted.

Flowers in July.

OBSERVATIONS.

PLANT, pilule, decumbens, or prostrate,
fleshy shrubby.

STEMS, or branches, arising in distant
pairs, (which cross each other) from
the axils of the leaves, cylindrical,
decumbent, or almost prostrate; whilst
young, herbaceous and green, be-
coming shrubby with age; and cov-
ered with the persistent cylindrical
pilule

pile of veins of the ternate leaves; whole hairs are not very thick set, but short, white, and rather proflid to the stem; some of them expanding, but pointed upwards.

Leaves, less fleshy or succulent than those of any other *Melastomaceæ*, opposite, sessile, but appear distinct, without they are attentively examined, (many *Melastomaceæ* having as much claim to the term sessile-leaved as this, the junction being formed by the thin sheaths, not the bases, of their leaves, being truly perfoliate as well as sagittate, when united there, as in *varicillatum*;) leaves being as it were a continuation of the pile of sheaths, linear, scarcely papulose, or if so, the papule are extremely minute, rising in the line, and of a dark green colour; crenulate above, with a convex or rounded keel, slightly serrulate both ways, rather dilating again at the very base, and embracing the stem, where they are quite destitute of succulency or pulp, and slightly membranaceous at the edges, with a white midrib, visible in no other part of the leaf,—the membrane at the base is ciliate-pilose, the rest of the leaf nearly smooth, or furnished

tered on both sides with distinct small white hairs.

FLOWERS, solitary, terminating the fertile branches which point upwards, and are rarely seen, opening to a very warm day only, in the forenoon.

PISTILLUM, cylindrical.

CALYX, five-toothed, leaves broad at the base, lessening to an acutish point, acquiring on the inside a purplish tinge, and resembling a flower; not fleshy but firm.

PETALS, none at all, in the plant I saw flower.

FILAMENTS, numerous, slender.

ANTHERS, I think whitish.

GERMEN,

STYLE,

STIGMA,

CAPITUL,

SEEDS,

} I did not cut in
pieces my specimen to
investigate.

ADDITIONAL OBSERVATIONS.

THE above description of the parts of fructification I must not omit to mention is from memory only, for I have not dissected my specimen, which I intended to have described very minutely; and which was procured from Mr. Curtis's Botanic Garden at Drompton, where the plant flowered very well last July.

THIS

This is a singular plant in its family, and not truly, or at least not closely, allied to any species I am acquainted with, and very rarely produces flowers; neither Lin. in *Sp. Pl.* nor Mr. Aiton in *Hort. K.* mentions having seen them.

Some *Melastreyanthema* differ exceedingly in their parts of fructification from others; few more so than this in its calyx, and being destitute of petals, and perhaps in its capsule.

Melastreyanthema apiculatum, although nearly destitute of petals, is not so much allied to this plant, as to the other annual species. How much the polygamous species differ from the regular pentagynous ones, which are true *Melastreyanthema*!—Some have only four celled capsules and four segments in the calyx, whilst a few have flowers with six or seven calycine leaves or clefts,—some have linear equal cylindrical lobes to their smaller calyxes;—others have large, broad, unequal, foliaceous segments, to expansive calyxes;—Whilst a few have the inner petals not only of a different colour to the outer, but of a different structure, being of a nature between the stamens and petals, operating somewhat like a nectarium, or the large like processes in pollinia, and by

excluding from the light, protecting the converged up anthers; as in *M. radiatum*.

MANY species have erect filaments, some have expanding filaments, and a few have visible filaments, closely converged, (without any inner points converging them,) like a cylindric button in the center of the flower, as is well seen in *deflexum* *Aut. Kew.*

How far some of these differences in the parts of fructification, when other circumstances are detailed to corroborate and strengthen them, may be thought sufficient to break down this bulky, and I will add difficult genus into lesser families, and thereby facilitate the investigation of its component individuals, is not perhaps the province of a young Botanist to determine, at least it would ill become me to decide.

conicula- *Menthastrum* *menthastrum* foliis imbricatis
 tom longis apiculatis, multibusque punctatis, basi semicylindricis, apice semi-
 (66) cylindricis triquetris

Myrt. 31. foliis ovatis longioribus, Ruff: Chén. vide supra the following genus.

Pinus *sp. foliis longius nervisque densius punctatis* *Herz.*

Myrt.

Melastom. 36. *ADB. Dic.* vol. 7. who gives the following synonym.

Passida africana densifolia, foliis triangulari longioribus flore purpureo Turrill. *Ann. R. Bot.* 1793.

M. acuminatum = *Spur.* pl. 697.

M. acuminatum = *338. Nat. Gen. am.* 2. 246.

M. acuminatum, = *Det. Kew.* 2. 192.

Wight's Marjagum, 1. 171. *M. acuminatum* 1.

Wight's Cat. 162. *M. acuminatum* 1.

Lin. in *Sp. pl.* gives the following synonym.

Passida capensis, foliis triangulari, flore luteo later, *pubula*, *Pat. Gen.* 2. 77. f. 10, which figure I have examined, but (not having seen the real flower) can say little about it.

Long leaved horned fig-marygold.

Native of the Cape of Good Hope.

Cultivated in England 1797. *Ait. Kew.*

Flowers March to May. *Ait. Kew.*

OBSERVATIONS.

Root, fibrous, stems variously branched.

PLANT, when young appearing herbaceous, acquiring by age ascending short shrubby angular stems, which are densely covered with long, equal, connate, vaginate, imbricate leaves.

BRANCHES, in the specimens before me, which I have for conchocentrum of Lin. (but not a flower,) numerous and densely foli, arising alternately from the axilla of the crowded leaves, and extremely short when compared with those of *diversiphyllum*, [*conchocentrum* f. Lin.]

LEAVES, glaucous green, equal, oppositely connate, vaginate, and embracing the stem slightly at the base, and pretty densely imbricate, each pair crossing the other somewhat obliquely; on their very first appearance growing together like the beak of a small bird, then expanding, and finally recurving back, with points inclining upwards; generally hemicylindric at the base, and hemicylindric triquetrous at the points, tapering upwards, and ending in a fine, short, barbed, white, cartilaginous beak, praeform, but not roughly so, being much softer to the touch than that of *diversiphyllum*, which is described as having scabrous praeform.

PERIOCHLIS, Brown, &c. I never saw.

diversiphyllum **Mammillanthemon foliis ramosis**
 (63) . **ramosis, connatis inaequalibus, scabro-**
punctatis, hemicylindricis-triquetris,
caule prostrato, elongato, pericha-
tis rubris.

Algae. foliis ciliatis brevioribus Rostk's
 Glob. 173.

Algae.

Myrsine, 35. *Mex. Gard. Dic.* ed. 7.

M. crenulatum, *L. Lin. Sp. pl.* 597.

M. crenulatum, *L. Gmel. Syst. Nat. rar.* 2.
846.

M. crenulatum, *L. Act. Hort. Kew.* 2, 192.

M. crenulatum, *Wight's Myrsine*, 1.
171.

M. crenulatum *hence Wight's Cat.* 162.

Flower 6. *after pale magenta, longfilament,*
margined elongated, short ample, erect
pubescent nerves entire; Lami rubra longa petiole,
Stem. Ind. Act. Hort. Lug. Bat. Parr.
1. p. 189.

Short leaved branched fig-marygold.

Native of the Cape of Good Hope.

Flowers March to October.

OBSERVATIONS.

Root, fibrous, branched.

BRANCHES, numerous, prostrate if on the ground, pendulous from a stalk, angular and long, alternate, serrate, and arising from the axilla of the leaves.

LEAVES, petiolate, of various lengths, some of them extremely long, others very short, covered with roughening punctures; semicylindric-triquetrous terminating in a white point, or short, hornlike, cartilaginous bristle, and often marked with a rather elevated line,

extending upwards, from the inner base; much firmer to the touch than those of *coriariifera* Lin. those on the branches arise from each other.

FRUIT, terminating the trailing branches, two or three inches long, nearly cylindrical, of an equal thickness, smooth, yellow with green, and furnished with a pair of bristled leaves about the middle, resembling those of the branches, but shorter, foliolate, and membranaceous at the base.

FLOWERS, large, of a bright shining yellow within, reddish without, opening in a morning.

CALYX, large, funnel shaped, very deeply five cleft, dark green, very roughly granulate; punctured, those on the lower part resembling little opaque tubercles, those on the points of the segments rather rough, but pellucid. Segments nearly equal, all of them very broad below, two of them rather larger than the others, with rather longer tripartite foliaceous points, the third, like the two left, but a little shorter, and somewhat membranaceous on one side; the remaining two, resembling the third, with very acute points, and both sides edged with a thin broad membrane of a darkish colour.

PETALS,

PETALS, largeish, some entire, others und-
nick'd, of a fine shining yellow co-
lour within; outwardly mark'd with
very dark reddish or purple coloured,
broad streaks, looking as if painted.

FILAMENTS, numerous, of different
lengths, deep yellow or saffron co-
loured, rather connat'd.

ANTHERA, smallish for the size of the
flower, oblong, pale.

GERM, much depressed, lenticular, or
plane-convex on both sides, or nearly
hemispherical, marked with numerous
angular ribs, yellowish green.

STYLIS, very numerous, about seven-
teen, about the eighth of an inch
long, expanded, subulate, buff co-
loured, not smooth.

CAPITUL, depressed, nearly hemispher-
ical, many celled, very full of watery
juice between the decay of the flower,
and opening of the seed.

SEEDS, few, lodged in about seventeen
pulpy cells, very small.

ADDITIONAL OBSERVATIONS.

I traced this plant is almost as nearly
allied to my tricolorum as to cornicu-
larem. Witness the structure of all
its parts and habit, but more particu-
larly its calyx, capsule and polygamous

flowers; there is however an abundant specific difference in the shape of the leaves.

DISSEMINATUM, principally differs from *corbiculatum* Lin. in its elongated trailing branches, and its distant, firm, roughly punctate, unequal leaves, and reddish petals.

CONGESTUM Lin. having very short, or somewhat abbreviated branches, densely crowded with imbricating, soft, equal, smoothly punctate leaves, and firm coloured petals.

The fructification of *corbiculatum* Lin. which I have not seen, may possibly exhibit other differences.

locum **MAHONYASTRENUM** foliis lanceolatis
(64) recurvis coccineis, basi interiori,
gibbis, coccineis, ovulis pendulis
Lin. Sp. Pl. 694.

Syl. Fig. Lich. Sec. 1. 384.

Syl. Mus. Gmel. Tom. 1. 243.

At. Riv. Rem. 2. 189.

Hill's Mus. Rem. 153.

Wight's Muscymon, 1. 170.

Wight's Cat. 162.

Saxl's Essey, 41.

Muscic. 32. Reuss's Chyf.

Leathery stalk'd egg-marygold.

Native of the Cape of Good Hope.

Cultivated

Cultivated in England in 1738, Ant. K.
Florum

OBSERVATIONS.

I regret that I never saw the plant *Linnaea* incana, although I have seen what Noury-pouss call *linnaea*, which is my *diversiphyllum*; they would perhaps be somewhat nearer the mark, if they sold either *convolvulus* or my *trichoman* for it, particularly the latter, which however is abundantly distinct from *linnaea*, in its unequal calycine leaves, and polygonous red-coloured flowers.

- **tricol-* *MAXIMISTACHMEN* foliis longioribus,
rum coracis cylindricis, caule procum-
(63) bente angulato, floribus polygonis.

Three coloured fig-marygold.

Native

Introduced

Fl. Oct. and Nov.

A new species.

DESCRIPTION.

Root, perennial, fibrous.

PLANT, when young, herbaceous, becoming woody with age.

BRANCHES,

BRANCHES, very long, trailing, if on the ground, but pendulous from a stalk, and angular.

LEAVES, when full grown, several inches long, almost as thick as a goose-quill, opaque, and perfectly cylindrical, connate, or perfoliate; at the very points blunt, but slightly attenuate, marked above with two parallel faint lines.

FLOWERS, opening about noon, beautiful, being as large as those of *arvensis*, and of those distinct and contrasted colours, viz. the bright fawn colour of all the upper part of the petals; the rich sanguineous purple of their bases; and the fine brown of the anthers.

PANICULAS, terminating the trailing branches, and arising from the side of the upper leaves, long, compressedly cylindrical, and of an equal thickness to the very calyx.

CALYX, five cleft, segments unequal, punctate, three of them membranaceous on the edges, and short; two exceeding long, especially on their left appearance, with dilated flat bases, and filicose filaceous points.

FILAMENTS, numerous, cross-patent, of a bright sanguineous purple colour.

ANTHERAS, of a fine brown colour, oblong, ticked at both ends, pollen brown.

PETALS

PETALS, very numerous and linear, of various lengths, certainly the longest, some of them end nixed, but they are chiefly intine, and of a bright fawn colour upwards, with rich sanguineous-purple marks near their bases.

GLANDS, broad, hemispherical, flat.

STYLUS, in the specimen before me, extremely numerous, more so than in any *Melantheranthemum* I am acquainted with, being about twenty, united below, expanded, short, filiculate, compressed, and brownish buff, or green coloured.

CARPOLS, nearly hemispherical, with cells, in all probability answering to the number of the styles, but I did not investigate that point, because I did not care to spoil my specimen, by cutting its capsule across.

SEEDS, I have not seen.

I assume this plant to be entirely new, it is very scarce, and nearest allied to *horum*, from which I conceive it principally to differ in its strictly cylindric leaves, unequal calyx, very narrow yellow petals, brown anthers, and polygynous flowers.

LEAVES, according to LINNÆUS, in *Sp. Pl.* 694, having a hemicylindric leaf, an equal calyx, purple linear, lanceol petals,

petals, white flamma, and (as nothing is said to the contrary, we may suppose,) five styles.

*along-
run
(65) *MINORIS ARBORIS folia longilima
glauca sub-terribus fabulata, hui
series cordiculata florum sub-
corymbis.*

Long white leav'd fig-marygold.

Native of

Introduced

Flowers July to October.

A new species.

OBSERVATIONS.

THE following description of this plant, which I consider as a new and most distinct species, I wish to mention, is taken from a somewhat hasty examination of a growing plant in his Majesty's Garden at Kew, of which I was not allowed to take a specimen home, on account of the Managers being out, when I followed the flavour of one.

DESCRIPTION.

Root, from the appearance near the base of the stem, I almost conjecture to be somewhat tuberous.

Stems, few, low, trailing on the ground, and finally pretty long.

LEAVES,

LEAVES, opposite, very glaucous or even white and long, rather attenuate at the points, nearly cylindrical, with a kind of channel'd line or hollow on the upper side, extending from the base to near the middle.

PETIOLES, cylindrical, appearing seemingly a continuation or elongation of the fertile stems, so that the upper leaves should seem to be of the nature of bractical leaves; they are more distinct, and much shorter towards the calyx, near which the peduncle is naked for some inches.

FLOWERS, solitary, extremely large and speciose, of a pale yellow, or sulphur colour, terminating the barren or flexuose fertile stems, and opening in a morning.

PETALS, numerous, of various lengths, inapertost flattest, and partaking of the nature of the filaments; outermost longest and linear; from the middle downwards, clothed with decussate down, a circumstance observable in the petals of no other *Nolensbryanthemum* I have hitherto had the opportunity of investigating.

FILAMENTS, extremely numerous, and capillary.

ANTHERA,

ANTHEM, crowding small for the size of the flower.

GERMENS, large, marked, with about ten ribs or lines, of a flat shape, or between hemispheric and conic.

STYLUS, ten, very small for the size of the flower, terminated by thickening digitate.

CAPULES, ten ribb'd, for't can scarcely be called ten angled, hemispherical-conic, with cells, in all probability answering to the number of its styles.

R E M A R K.

Its styles and capules should seem to point out an affinity with *Mesembryanthemum pagilariforme*.

*Genus- *MESEMBRYANTHEMUM* folia connatis,
 Endricum longis, semicylindricis pagularis, apice
 (47) attenuatis obliquis, junctibus sub-cilatis-pubescentibus.

Semicylindric fig-marygold.

Native of

Introduced

A new species.

O B S E R V A T I O N S.

I HAVE no other than a very small plant of this *MESEMBRYANTHEMUM*, from which

which I have formed the above-specific character, and have somewhat farther to remark.

PLANTULE (as I have seen, herbaceous, or with very short, soft, gross, and fasciculate branches, arising from the axilla of the leaves.

LEAVES, sessile, vaginate, somewhat crowded, lanceoloides and attenuate (also obliquely so) at the points, fasciculate, gross, and turgid, soft to the touch, and very brittle, full of watery pulp, covered with a thin skin of a deep green colour, and marked with large pale papule: the younger ones less, sometimes ciliate-pubescent towards the upper parts of their edges: all the leaves appear to have a tendency to assume unequal lengths and shapes.

FLOWERS, I have not seen.

This plant may perhaps hereafter prove more akin to *crassifolium*, or rather (from the inconsistency of its not exactly equal, oblique leaves) to *diffusum*, than *lucorum*, &c.

MENTHARIVANUS foliis semiteretibus subulnis glabra distinctis, internodiis longioribus.

Lic. Sp. Pl. 693.

Syl. Veg. Lich. Sic. 1. 384.

Syl.

Syl. Nat. Gard. Torr. 2. 848.

Atl. Herb. Kew. 2. 116.

Hist. Herb. Kew. 134.

Wight's Hesperianus, 1. 170.

Wight's Cat. 162.

Rand's Hbry. 61.

Mémoire, 23. *scandens procumbens flore
arabica*, *Rand's Herb.*

Mémoire, 22. *Mé. Gard. Dis.* 21. 7.

*Pinoides seu flore striatula : apicatus folia longi-
tudo, flore rubra*, *Benth. Ind. alt. Herb.
Lag. Bot.* part 1. p. 231.

Slender leav'd fig-marygold.

Native of the Cape of Good Hope.

Cultiv. 1700. *Atl. Kew.*

Fl. June to Sept. *Atl. Kew.*

OBSERVATIONS.

I have seen this plant flower, but have obtained no specimen proper for description.

In many stages of growth, it is very liable to be taken for *bicoloratus*, and my *spiniformis*.

M. transversolum frequently emits roots from the joints of its stems, and thereby becomes a rampant plant.

**spiniformis* *MELAMPYRANTHEMUM*, foliis, oppositis
(69) subcongestis cylindricis, apice attenu-
atis sub-spiniformibus, ramis, erectis
hirsutis.

Thorn

Thorn shaped leaved fig-merygold.

Native of

Introduced

Flowers

A new species.

OBSERVATIONS.

THIS is a new species, whose flower I have not seen, it is allied to bicolorum, and in some respects looks like transversum; from the latter it differs abundantly in its crust, firm, and woody leaves; and from the former in its strictly cylindric leaves, and finer shoots, which strike root with very great difficulty; whereas those of bicolorum root with remarkable ease.

I have obtained no specimen proper for particular description, and never saw its flowers.

Violaceum *MIMOPHYTANTHEM folia subtripartita lobulatis scabrido-punctatis, pedunculis nudis, papulosis-scabridis corollis luteis.*
(79)

Desfont. folia subtripartita lobis ovatis dentatis, Lin. Sp. Plant. 483, which Syn. (not having that edition of Sp. Pl. 1753) I take from Hb. Berol. 7. *Desfont.* 13, who gives the following apparently right synopsis of the plant.

Q.

Fraser

Erigeron capensis frutescent, foliis teretibus paniculatis, petalis latis Bradley's Desc. 1. p. 2. F. 7.

Michx. 18. Mill. Gard. Dic. ed. 7.

Michx. *Michx.* foliis subulatis lobatis paniculis apiculatis, corollis frutescentibus, corollis lobatis, Sp. pl. ed. 1754, p. 695, is my conviction, as appears by the words, foliis subulatis lobatis, &c. and by some of the passages adduced; — why Linnaeus should alter the specific character of his *Michx.* so much in two editions of his Sp. pl. is difficult to account for, unless we naturally suppose he first described the real *Michx.* with roughly paniculate leaves, and afterwards described my conviction, (which has leaves smoothly paniculate, and is very closely allied to his first, and therefore true *Michx.*) and believed them the very same.

The last Fig. of Bot. Mag. p. 59, is my conviction, as appears by the deep red-orange coloured flowers, somewhat lobed, and somewhat bifid panicules, furnished with hairs which answer to bristles, by not emitting shoots from their axilla, as the uppermost leaves of *Michx.* constantly do, even before the flowers are expanded; whilst shoots are sometimes as long as the roughening panicules themselves.

Michx.

Alphitoea frutescens *Just. rostr.*, *Sand's*
Chap. 133, which is taken from *Dill.*
Ehh. Tab. 101, which figure I have seen,
 and believe it belongs to this plant from its
fruticosa-punctate leaves, and nearly naked
 peduncles.

Pale yellow two coloured fig-marygold.

Native of the Cape of Good Hope.

Introduced.

Flowers June to October.

OBSERVATIONS.

THE following is a description of *bicolorum*, contrasted with *coccineum*, from living specimens, now lying before me.

BRANCHES, woody, firm, stouter than those of *coccineum*, finally forming a larger plant, covered with a much paler brown bark, opposite or often alternate, whilst young scapitose, becoming cylindrical rather stouter than those of *coccineum*.

LEAVES, very long, subsessile, subulate, roughly punctate, often longer and greener than those of *coccineum*, which are usually slightly glaucous, stouter than those of *bicolorum*, semicylindric, compressed, with obscure keels, punctate and smoothish.

Q.2

FLOWERS,

FLOWERS, on their first appearance, terminating the young branches, but soon rendered axillary from the early and constant protrusion of new branches from the belows of the uppermost leaves, yellow within, tinged purple without towards the tips, opening in the morning. Whereas those of *coccineum* for the most part, terminate the younger branches, (the uppermost leaves being much shortened and blunter than the lower, assuming the office of bractes, rarely furnishing young axillary shoots,) and have constantly deep luscineous orange coloured petals.

PETIOLES, constantly naked, (the uppermost leaves being as long as most of the other leaves of the plant, and constantly emitting young shoots, about the length of the petioles from their axils,) the petioles are almost cylindrical, or nearly of an equal thickness throughout, covered with rough panduræ, and shorter than those of *coccineum*; which are polished or very smooth, and attenuate at the base, more inclining to be angular than those of *bicolorum*, somewhat slenderer, and often tinged brown, and thickened considerably upwards, with roughish puber-

pendulous near the calyx, and bracted leaves about the middle, which are the upper leaves of the female branches, rendered of the nature of bracted leaves, by being shorter and blunter than those below, and very rarely furnishing shoots from their axillæ.

CALYX, five cleft, segments unequal, two long, semicylindrical, tubulose; three shorter, broader with membranaceous edges, all the segments with very rough punctures at their bases. The calyx of *coarctatum* is left than that of *bicolorum*, five cleft, segments not quite equal, but (in my specimens at least,) more so than in *bicolorum*, two rather longer than the other three, tubulose, flat, plain, and dilated at the bases, the other three rather shorter and broader with membranaceous edges; all the segments covered at the bases with roughish punctures.

PETALS, numerous in both plants; in *bicolorum* yellow within, slightly keel'd without, with a purple tinge from above the middle upwards to the point, which are inflexe and acute;—in *coarctatum* the petals without are of a glittering deep sanguineous orange colour, rather broader, blunter, and

Q₅

fluter

flatter than flesh of *bicolorum*, some of them slightly and sick'd at the points, with a tendency to be revolute on the sides, the patch on the outside, are rather paler than on the inside, with a tinge of purple.

FILAMENTA, in both plants numerous and expanding, yellow in *bicolorum*, orange in *coccineum*.

ANTRACIA, yellow and pollen yellowish in both plants.

GRASS, sciform in both.

SEEDS, five in both, smaller and paler in *bicolorum* than *coccineum*.

CORRELA, sciform, and line roll'd in both.

SEEDS, I have not seen.

Such are the differences of the two plants before me, which after all are scarcely enough to form two species sufficiently distinct.

bicolorum *SEEDS*, yellow two-coloured fig-nary-mine gold.

I saw this plant at Mr. Lee's by this name, but as I only saw it over a cup pit, and had no specimen of it, I can say but little about its characters, it appeared somewhat more than half the size of the common *bicolorum*, in its leaves, had yellow flowers, and seemed as if it was intermediate be-

tween

even the common bicolorum and spiniforma, and distinct from coccineum.

coccineum **MINIPELTANTHEMUM** foliis semicylindrico-compressis carinis obtusis, pedunculis sub-bracteatis, basi breviter, petalis coccineis.

[31]

Minut. *bicolorum* foliis subulatis leviter punctatis ellipticis, costa frutescente, nervis brevibus, *Lin. Sp. Pl. vol. 1764, p. 495.*

Minut. *bicolorum*, *Syl. Faj. Lath. Dec. 314.*

Minut. *bicolorum*, *Syl. Nat. Gen. 545.*

Minut. *bicolorum*, *Curt. Mag. 59. prod.* but colored too pale, and left representing a plant which has flowered in warmth, those flowering in the open air in flower, are left elongated, with shorter bracted leaves, and lighter colored flowers.

Minut. *bicolorum*, foliis subulatis tripartitis, punctatis ellipticis, costa frutescente, nervis brevibus, flore utroque, flore purpureo, *Walp.'s Muricorum. 1. 171.*

Deep red lig-anthyoid.

Native

Introduced

Flowers June to October.

OBSERVATIONS.

AFTER the full description I have given of *coccineum* under the aspect of *bicolorum*, it is unnecessary to say much more about it here; but as the former is, if not a new, at least an overlooked plant, and a very beautiful one, I have drawn up the following particulars of it.

DESCRIPTION.

PLANT, shrubby, and some little slenderer in all its parts than *bicolorum*.

BRANCHES, alternate, or often opposite, whilst young scapitose, nearly cylindrical, and covered with a much darker coloured bark than those of *bicolorum*.

LEAVES, opposite, petiolate, (petioles nearly smooth) not so long as those of *bicolorum*, and often more inclining to glaucous, of a shape somewhat semi-cylindric, and somewhat compressed on the sides, with rounded or obtuse base, and bluntish, not subulose point.

FLOWERS, of a deep sanguineous orange colour on their first opening, fading a little afterwards; not rendered axillary by the protrusion of young branches from

from the base of the uppermost leaves as in *bicolorum*, but for the most part terminal, owing to the uppermost and shortened leaves, rarely sending out branches from their axils, but, being sterile, and answering the office of bracts.

PETIOLES, cylindrical, often coloured, or very slightly angular, broader than those of *bicolorum*, at the base attenuated and polish'd, or very smooth; above, close by the calyx, thickened and punctate, pubescent rather rough, but not so rough or large as in *bicolorum*.

ABOUT the middle of the peduncles arise two opposite leaves, shorter than those on the branches, more sharply keel'd, and blunter; they are the uppermost leaves on the sterile branches, and being barren of shoots answer the office of bracted leaves.

CALYX, five disk, segments nearly smooth, not quite equal, but more so than in the specimens of *bicolorum* before me; three segments broader, shorter with membranaceous edges; two rather longer, narrower, subulate, but flatish and dilated at their base. The calyx is less than that of *bicolorum*, and less roughly punctate at the base.

PISTIL,

(250)

PETALS, exactly as described under those of bicolorum, and about the same length, much surpassing the diameter of a halfpenny applied to the expanded flower.

FILAMENTS, } as described under bi-
ANTHERA, } colorum.
GERMEN, }

STIGMA, five bristler, shorter and yellower than those of bicolorum.

CAPITUL, disciform, five cell'd.

SEEDS, I have not seen.

ADDITIONAL OBSERVATIONS.

THAT I have got through the tedious descriptions of these two closely allied plants, which I shall possibly be excused for separating.

When in bloom, bicolorum is at once known by its yellow flowers; coccineum by its deep orange coloured ones.

When past bloom, the underfile bracted leaves invelling the peduncules of the latter, point it out from bicolorum in the same situation, which has at that time considerable shoots in the between of its uppermost leaves.

When seen before the appearance of flowers, I know no finer marks of distinguishing the two plants than the paler

paler bark, longer and rougher leaves, and robust flowers of bicolorous, which are to be perceived by viewing the two plants together, when nearly equal in age and health.

Concinnum, has by far the handsomest flowers, which in old plants are very numerous, and make a most beautiful appearance, particularly when contrasted with the yellow and rubicund flowers of their kindred.

acili- *Maunstratum fide Serp-*
um *hedus impunctatis dilatis, fiori-*
(32) *bus pedunculatis, extra pharocis,*
calicibus quadrifidis.

Myobr. aciliflorum. Sp. pl. 689.

Myobr. aciliflorum. Gard. Syst. Met.
tom. 2. 144.

Myobr. aciliflorum fide Serp-hedus im-
punctatis, dilatis, calicibus quadrifidis,
floribus pedunculatis extra pharocis extra
pharocis rubrifloris. Wight's Hesper-
man. 1. 165.

Myobr. aciliflorum 1. Wight's Cat. 164.

Myobr. 33. aciliflorum, floribus caudatis
extra pharocis, rubrifloris, Gard's Cat.
133.

Myobr. 4. fide Serp-hedus, floribus
quadrifidis. Hill Gard. Dir. ed. 7.

Floribus, fide Serp-hedus, Africanis, corollis
interfueris liguis, fide radialis, primo
purpureis,

*perpetua, sem argentea, internodia densa,
 sessis apertis. Benth. Ind. ar. Hort. Lapp.
 Bot. pers. 1. p. 291.*

Purple night flowering fig-marygold,
 Native of the Cape of Good Hope.
Cultiv. 1714, An. K.
 Fl. June to August.

OBSERVATIONS.

THIS plant flowers abundantly in July
 and August, but I have no specimen
 proper for description.

ATTEMPTS I have often seen the flowers
 of this plant in bud, and when past
 bloom, I never had the opportunity of
 beholding them at the critical juncture
 of expanded perfection; nor have I as
 yet been able to learn from others,
 with any precision, their hour of open-
 ing or unfolding, which is said to be
 later than that of all other *Melam-
 bryanthema*.

franci- *MELAMBYRANTHEMA, foliis lineari-*
ram *tibus falcatis, caule arborescente, flo-*
(72) *ribus cæcis frutescentibus.*

Müller's Gard. Dio. ed. 7, Myrsin. 5.

Myrsin. acyliflorum, R. Sp. pl. 689.

Myrsin. acyliflorum, R. Syst. Nat. Gard.

Tom. 2. 844.

Myrsin.

Melaleuca, saligna 2. *floribus luteis candidis, cæcis frumescens, subrotundis*, *Wight's Magazine*, 1. 166.

Melaleuca, saligna 2. *frumescens*, *Wight's Cat.* 161.

Melaleuca. 42. *floribus luteis candidis, cæcis frumescens subrotundis*, *Rand's Catalogue* 133.

Fraxinus 252, *arborescens*, *foliis ovatis, floribus candidis, ævis apertis, interius clausis*. *Swartz. Ind. Alt. Herb. Læp. Bot. pers.* 1. p. 192. Small coloured night flowering fig-tree-gold.

Native of the Cape of Good Hope.

Introduced

Flowers

OBSERVATIONS.

I have never seen this plant flower, and have taken it up as a species, from the 7th ed. of Miller's Dictionary. The specific characters (except the three last words) are the characters of Miller, and therefore of an experienced Botanist, and a man of judgment, whose names and distinctions I have taught myself to revere.

Born Bonpland and DeCandolle, the only originals I have to cite, appear to have considered it as specifically different from the *noctiflora* of Lam.—My own opinion

opinion on the subject (was it of any weight) is not to be had, for I have not seen enough of the two plants to judge.

- brachia- *MAXIMIANSTAMEN*, calibus foliif-
tata que cylindrica papulosa, sunt tri-
(74) chotomis.

At. Her. Kew. 2. 191.

Sp. Nov. Gmel. Tem. 2. 247.

Three-forked fig-marygold.

Native of the Cape of Good Hope, Mr.
Fr. Maßen, *At. K.*

Introd. 1772. *At. K.*

Fl. July and Aug. *At. K.*

OBSERVATION.

THIS plant is very scarce; I have seen it,
but have no specimen proper for de-
scription—it is a branched decumbent
Shrub.

- hera *MAXIMIANSTAMEN* foliis cylindri-
(75) cis obtusis amplicaulibus latis,
calycibus quinquefidis, lacinis ob-
longis obtusis.

At. Her. Kew. 2. 187.

Gmel. Sp. Nov. Tem. 2. 245.

Upright white wooded fig-marygold.

Native of the Cape of Good Hope, Mr.
Fr. Maßen, *H. Kew.*

Introduced

Introduced 1774. *Ant. K.*

Fl. July to Sept. *Ant. K.*

OBSERVATIONS.

I HAVE seen this plant, but have no specimen proper for description—it is a shrub.

gossium (76) *MAMMISTYANTHEMUM*, foliis subcylindricis confertis papulosis, caudice basi incrassato raris diffusis glabris.

At. Flor. Kew. 2. 121.

Syl. Nat. Gust. Tim. 2. 843.

Goaty fig-marygold.

Native of the Cape of Good Hope, *Mrs.*

Fr. Masson, Ant. K.

Introduced 1774. *Ant. K.*

Flowers August—October, *Ant. K.*

OBSERVATION.

I HAVE seen *gossium*, but I have no proper specimen for description.

Bipala- *MAMMISTYANTHEMUM* foliis subcylindricis-compressis incrassatis, punctatis
canum (77) diffusis corymbis, basi marginatis.

Spec. Planc. 633.

Syl. Veg. Lich. Sic. 384.

Syl. Nat. Gust. Tim. 2. 845.

At. Mrs. Kew. 2. 187.

At.

Mill's Bot. Kew. 134.

Wight's Nerbifera, 1. 170.

Wight's Catal. 161.

Rand's Bijl. 61.

Myrsin. 44, *fruticosa flore purpurea reversa*, *Rand's Chiff.* 133.

Upright shrubby fig-marigold.

Native of the Cape of Good Hope.

Cult. 1738, Art. K.

Flowers June to October.

OBSERVATIONS.

THE following is a description of a young growing plant, about a foot high;—the flowers I have seen this genus at Kew, but have no specimen in flower to describe.

DESCRIPTION.

Root, perennial, fibrous, furnished with innumerable dividing ramifications.

PLANT, upright, woody, and firm, growing to as large a size as any *Myrsinobryanthemum* I have seen, except *maximum*.

BRANCHES, arising from the axils of the leaves, opposite, erect-expanding, crossing each other in pairs, and beset thickly with young leaves on their first outset, and whitish or glaucous, but finally

finely covered with a brownish bark, shorter and shorter upwards, forming a beautiful pyramidal glaucous plant, well covered with fine leaves.

LEAVES, when full grown, from two to three inches long, slightly curving upwards or blunt, very glaucous, crossing each other in pairs, punctate, distinct, but nearly embracing the stem, of a shape semicylindric, compressed, with a blunt keel, or, subquadratus, with the bottom or keel angle very blunt, slightly tapering towards the point, which is not acute.

FLOWERS, terminating the principal stem, large, showy, and purple.

***purpureo-** **MACMURRAYSTREUM folia cuneata,**
crucium *semicylindrico-subulquestris, obtusa;*
(54) *calycibus quinquefoliis, lacinis dentatis*
 cucullatis, longis, foliiformibus, in-
 tribus interioribus, brevioribus, mem-
 branatis.

Purple and salmon fig-marigold.

Native of

Introduced

Flowers August to October.

A new species.

R.

OBSER.

OBSERVATIONS.

THIS is the plant which is called by the vulgar name of *Succulentum*, at Hammer-smith.

When I considered the whole genus *MESSEXTANTHUM* consisted of such numerous species, all of them more or less succulent, it was a sufficient inducement to frame a better name for this plant, than that of *Succulentum*; which I trust I have done, although in a composed term. The specific name of *purpure-croceum* is alone capable of distinguishing this plant from all its congeners, which I have seen flower, the petals on their first opening, being of a lovely bright purple, which quickly fades to a saffron-yellow.

THE term *rotabile*, which it is said Mr. Lee has applied to another species, that might have admitted the name *marginatum* very well, would have admirably suited this plant; but names of plants, although unprinted ones, I am by no means for having changed wantonly, and without benefit to the cause of Botany—which it has been, is, and shall be, my sole endeavour to advance.

DESCRIP-

DESCRIPTION.

Root, perennial, fibrous-branched.

PLANT, branched, succulent when young, herbaceous when old.

BRANCHES, opposite and alternate, arising from the axillæ of the leaves, nearly cylindrical, weak and smooth, at first glaucous, succulent, herbaceous, and ascending; finally becoming woodyish and firmer, but they do not support themselves in an erect posture.

LEAVES, opposite, sessile, or almost petiolate, for their sheaths cover the branches, and remain after they decay; very glaucous, foliaceous, and rather gross, but not near so much so, as those of *verruculatus*; punctate; between serrulate and subtriquetrous, with blunt knobs and points.

FLOWERS, large and showy, of florid duration; on their first appearance, terminating the branches, afterwards most of them are reduced axillary by the protrusion of new shoots, from the side of the upper leaves; of a deep lovely bright purple on their first opening, but soon fading to a softer colour,—whence my trivial name.

PANICLES, in my specimens solitary, of a moderate length, glaucous, and rather compressed.

CAULIS, very glaucous, five-angled, segments unequal, the two outer ones long and foliaceous, that is, resembling the leaves of the branches; the three inner ones shorter, with membranaceous edges.

PERALA, numerous, linear, but broadish, paler without than within, of a lovely bright purple when first expanded; soon fading to a fallow colour.

STYLIS, and the internal parts of the flower, I did not cut up my specimens to investigate.

veracula-
tum
[79] **MEIMANTHEMUM** foliis cylindricis
subtripartitis acutis connatis, arcuatis,
inapertis distinctis.

Spex. Pinn. 696.

Spex. Fig. Lich. Ser. 2. 384.

Spex. Nat. Gencl. Tom. 2. 847.

Det. Hort. Kew. 2. 192.

Hill's Hort. Kew. 133.

Swal's Epist. 41.

Wight's Nephrolepis, 1. 171.

*Wight's Cat. 162, erroneously spelled veraculatum, and so erroneously transcribed
"WALTER David Smith"*

*Wight's 36, foliis serratis, floribus
mutis umbellatis, Rind's Chapt. 133.*

*Wight's 33, foliis subcylindricis acutis
mutis arcuatis brevibus, M.D. Dec. ed. 7.*

Flender

Boerhaavia *spica*, *interfoliata* *folia* *terre*, *glauca*,
apert-purpurea *capiti*, *Boerh.* *Bot.* *tab.* *tab.*

Herb. Lugd. Bat. *part.* *1.* *p.* *292.*

Spice *herb'd* *fig-marygold.*

Native of the Cape of Good Hope.

Introd. 1732, *Art.* *K.*

Flowers May and June.

OBSERVATIONS.

I have no proper specimen of this plant
 in bloom, for description.

The flowers are yellowish and small,
 produced by aged plants only; nume-
 rous, forming a kind of crowded co-
 rymbus, and terminating the bluestem
 branches of the plant.

Boerh. *Bot.* *tab.* *tab.* *1.* *p.* *292.*
Spice *herb'd* *fig-marygold.*
Herb. Lugd. Bat. *part.* *1.* *p.* *292.*
Spice *herb'd* *fig-marygold.*

Art. *K.* *1.* *p.* *292.*

Spice *herb'd* *fig-marygold.*

Spice *herb'd* *fig-marygold.*

Nat. of the Cape of Good Hope. Mr.

Fr. Maillon, *Art.* *K.*

Introduced 1732, *Art.* *K.*

Flowers

OBSERVATIONS.

This plant was first described in that
 most useful book the *Herbarium Kewense*

of Mr. Aron, from which the above specific character and characters were taken, and from whence Professor Griseb. (the second so far as I know who notices it) appears to take up the plant, as a species.

Of the specific character I have to observe, that it may possibly be amended by the following alteration.

M. molle ramis sub-angulatis foliis sub-ovatis, petiolatis, manifestibus, sub-inopertis-angulis, angulis oblique breviter punctatis.

The following is a description of the leaves and branches of *M. molle* from a young plant about eight inches high.

Root, fibrous, branched, perennal.

PLANT, a shrub, variously branched.

BRANCHES, usually opposite, sometimes alternate, arising from the axils of the leaves, at first hexagonal, compressed or subcylindrical, and expanding; afterwards becoming rounded and more horizontal; and finally, quite round; woody, firm, and covered with a loose brown bark.

All plants which have young aciculate shoots, become more or less round thence when old, I have seen this take place even in the Opuntia division of the genus Cactus, (which appa-

net leaves are analogous to shoots) and is the angular, succulent, sphyllous *Euphorbia*.

LEAVES, sessile, when young; expanding, or expanded, when full grown;—when aged often reflected,—when young, appearing scarcely concave;—when old, quite concave, but only slightly so,—when very old, often as if angularly concave; very dull glaucous, or rather hoaryish, or insenscent and soft to the touch, with a thickish skin, which does not let out the juice readily when the leaf is bruised, by pressure; impunctate; (punctures large, paler than the rest of the leaves) subtripartite, very turgid on all sides, but most so above, with very blunt angles, marked by manifest lines of semitransparent or lucid contiguous punctures; the leaves are blunt, but have a fine white almost imperceptible point, best observed on the youngest leaves.

FLOWERS, I have not seen.

I HAVE heard this plant called *Melampyrum pubescens* at Mr. Lee's, in other places I have often heard the *Cassia* name of Mr. Arden's *Hortus Kewensis* (a plant very much like *M. sylv.* in its leaves and shoots) called

by the name of *Melombranthum pubescens*.

*cymbi- *MELOMBRANTHUM* foliis brevibus,
 forme compressis-subtriangulis, obtusis sub-
 (lin) cymbiformibus.

Base leaved foliage.

Native of

Introduced

Flowers

A new species.

OBSERVATIONS.

I HAVE seen a plant of this *Melombranthum*, which I believe came from Mr. Lee's, by the name of *Melombranthum foliatum majus*, a common hickory'd name that I have heard applied to many different species of *Melombranthum*, particularly the present one, *M. decumbens* (of Miller, and of these observations) and *M. glomeratum* Lin.

DESCRIPTION.

THE plant I saw is about a foot high, branched and fleshy.

BRANCHES, opposite, very short, crossing each other in pairs, and arising from the axillæ of the leaves, compressed, or anspicuous when young, round when

when old; and covered with a hoak
pale brown bark.

LEAVES, short, small, fleshy glaucous
and punctate, newly dilated; on old
and subterranean plants very short, a
pair of them just before expansion,
putting on a shape between oval and
sphacoidal, which no other Mesem-
bryanthemum but this puts on, (that
I have seen,) and which almost tempt-
ed me to name the plant (sphacoi-
dium. The expanded leaves are
fibriguettes, compressed, with blunt
angles and points, and a keel gibbous,
or rounded, or contracted inward at
each end, which gives the leaf, (if not
laxarant,) a cyndelcom, or boat like
shape, whence any trivial name.

FLOWERS, I have not seen.

**palure-* MESEMANTHEMUM foliis cylindrico-
lentum. fibriguetis, obtusis, scabrido-punc-
(Ba.) tatis, punctis pubescentibus.

Pubescent or dusky fig-marygold

Native of

Introduced

Flowers

A new species.

OBSERVATIONS.

THIS is the plant which is called *galvane-lentum* at Mr. Lee's, a name not very well adapted to the plant, nor yet altogether unexpressive.

DESCRIPTION.

Root, perennal, fibrous.

PLANT, Dumbbells, upright.

BRANCHES, (as appears by a small sprig before me,) opposite, arising from the axilla of the leaves, and crossing other very prettily in pairs; when young compressed, and covered with shining chrysaline papule.

LEAVES, shortish, obtuse, opposite when young, nearly distinct, bristly, greenish, and covered with roughening small chrysaline papule; when old and not drawn weak by warmth, of a shape between cylindric and subtriangular, turgid, with excessively blunt or rounded angles, and blunt points; expanding and covered with close set regular well defined roughish incurvated im-punctations, looking somewhat like fine shagreen or fish skin; each of which impunctations when viewed in the microscope, appears to be a con-
 gerica

green at leaflet, but distinct spots, a peculiarity I have found no other *Melastomaceæ* to possess.

Flowers, I have not seen.

- † *Spoko-* *MELASTOMACEÆ* foliis ovato-lanceolatis,
lun. obtusis, subincurvatis-cornatis, junioribus,
 (81) cuneatis, papulis quadratis.

Shining (peculiar fig-marygold.)

Native of

Introduced

Flowers August.

A new species.

OBSERVATIONS.

As this plant is sold by Mr. Lee under the name of *Speciosum*, and a little known by that term, I have thought it better to continue it, although the term *cornatum*, from the bending upwards of the leaves in healthy strong plants, like a pair of little horns, might perhaps have been still as applicable; for we must not, (if we love the cause of Botany,) wantonly change the known name of a plant, because we merely happen to think of a better, as I have somewhere seen well remarked,

I HAVE

I HAVE NO specimen of this plant proper for description.

It is almost too nearly allied to *micans*, but had in the plant I saw intervening leaves, representing a pair of little horns, and the leaves were smoother than those of *micans*, with much smoother stems.

Flowers, larger than those of *micans*, somewhat of the same colour and more showy.

micans *MORRHUSTRUM*, folia subcylindrica papulosa distincta, caule frut. (34)

Sper. plant. 696.

Eglt. Fig. Lach. Ser. 1. 534.

Eglt. Nat. Genl. tom. 2. 343.

Art. Hort. Rem. 2. 190.

Hist. Hort. Rem. 2. 155.

Wight's Newforyman, 1. 171.

Wight's Cat. 164.

Almer. Bot. Art. 2. 655.

Doal's Essay. 61.

Miscel. 34. micans flore phacelia, florumis atris, Rind's Chiff. 134.

Miscel. 35. folia subulata subcylindrica papulosa distincta, caule frut. Mill. Dic. ed. 7.

Ficoides repens variegata flore cruce. Pot. Gen. 1. 7. f. 9. refer'd to by Lin. may be an error of the press in making the figure of 8 after 7, for I believe 1. 75. fig. 9. is the plant.

GIL-

Glittering fig-marygold.

Native of the Cape of Good Hope.

Cultivated 1758 by Mr. Ph. Miller.

Flowers June to August.

OBSERVATIONS.

MEXIMETANTHEMUM micans has distant expanded papulose shining leaves, a roughened slender, but firm, woody, very much branched stem, and large showy very dark orange coloured flowers, which open in a forenoon, and put a splendid figure. I regret that I have not been able to procure a recent specimen of *M. micans* in flower for description.

micans This is a variety of *micans*, rather less in all its parts than *micans*, with a much paler and smaller flower; some call it *micans micans*.

I have had no opportunity of examining it, and once fancied it was the same as *speciosum*, above described. I also fancied it might be the same as the next plant mentioned in these observations, which I have named *maculatum*, but on considering the subjects, and comparing small specimens of them together, I am inclined to think they are all distinct; for *maculatum* has very short, horizontally

usually expanded, smaller, and less rough leaves than *micans*, and branches not to be called roughened but rather marbled.

- * *maculata*. *Miconia maculata*, foliis patentibus obtusis compresso-convexifolius, costa maculata, erecta.
(85)

Spotted stalked fig-amarogold.

Native of

Introduced

Flower

A new species.

OBSERVATIONS.

Of this plant I have only a small specimen without any flowers; it appears closely allied to *micans* and *spodiopogon*, and may possibly prove no other than what I have heard called *micans minor*, which however I think it is not, but the poverty of my specimens deters me from deciding.

DESCRIPTION of *M. maculata*.

PLANT, shrubby, upright, woody.

BRANCHES, forming distinct joints, opposite, arising from the side of the leaves, and crossing each other in pairs; very slender, but firm, woody, cylindrical, scarcely

entirely to be called rough, (as is the case in *villosa*,) but rather maculated after the manner of *Filix maculata*; whence my trivial name.

LEAVES, opposite, very distinct, smoothish, and remote or distant from each other. The young ones expanding;—the old ones often horizontally expanded, short, hemicylindrical, with a very blunt keel; or often compressedly hemicylindrical, and slightly channel'd above, rather leucytha and opake, in some shades; but when viewed in a strong light, shining with very minute papille, particularly when young.

FLOWERS, I never saw.

ADDITIONAL OBSERVATIONS.

To the above description, I must not omit to say, was drawn from a small young specimen (gathered in October) about four inches long only, which was produced by a plant about two feet high, which had stood in the open air all the summer, and was not headed at the time the specimen was gathered.

suberosum *Mammillarium* *filix* *subulata*
(186) *papillata* *distincta* *apice* *papilla*, *radice*
capitata.

Spec. Plant. 693.

Sp. Pl.

Engl. Veg. Link. Soc. 1. 383.

Engl. Nat. Good. Tem. 2. 843.

Bot. Hort. Kew. 2. 186.

Hort. Hort. Kew. 154.

Wight's Nurserymen, 1. 170.

Wight's Cat. 162.

Arboret. Bot. Art. 2. 432.

Roos's Essay, 62.

Myrsin. 41. *Rand's Gloss.* 133.

Myrsin. 21. *Mill. Dic.* ed. 7.

Tuberous rooted fig-marygold.

Native of the Cape of Good Hope.

Cult. 1714, Art. 8.

Flowers June to October.

OBSERVATIONS.

MARUMIANTHERMUM tuberosum forms a low, very much branched, and spreading shrub, and when old, has an exceeding large felled, or tuberous root, partly protruded above the surface of the ground; in which respect it differs amazingly from the fibrous racemosity of all its congeners.

Its flowers are produced plentifully every summer, of a pale or dilute red colour, and are smaller than those of any of the other shrubby species, which I have seen bloom, except perhaps the little white flowers of *M. tongahum*, of these

OBSERVATIONS.

I HAVE

I HAVE no recent specimen of *M. tuberosum* proper for description.

tuberosum I HAVE seen the young shoots of the *M.*
blotched *tuberosum* produce several blotched or slightly variegated leaves occasionally, towards the latter part of summer, which gave the plants a pretty appearance, but was by no means permanent, although, it is very probable, such blotched shoots, if they had been taken properly from the plants, struck in a poor rubbishy soil, and treated after the manner recommended by Dr. HILL,* might have been converted into a lasting variegated variety; for something like this was the origin of that beautiful striped variety of *Sempervivum arborescens*, which decorates so many of our greenhouses in the winter season, with its green and silvery leaves.

PECULIARITIES.

THAT it appears the *M. tuberosum* occasionally exhibits three peculiarities no other fleshy *MILDEWYANTHERUM* assumes; viz. first, a tubercles root; second, the smallest flowers; third, blotched leaves.

* Hill's Linn. 420.

brevis-
lun
[37]

MALMECANTHUM, foliis cylindricis, obtusissimis papulis patentibus, nervis distinctis.

Ait. Hort. Kew. 2. 183.

Syl. Nat. Guel. Vm. 2. 343.

Short leav'd fig-marigold.

Native of the Cape of Good Hope, Mr.

Fr. Maffon, *Ait. K.*

Introduced 1774. *Ait. K.*

Flowers July to October.

OBSERVATIONS.

Root, perennial, fibrous; stems numerous, small.

PLANT, a slender branched woody shrub, two or more feet high.

BRANCHES, divaricating, cylindric, when young, gyrate, and covered with chrysoline papule; when old, smooth, very-liguous, and slender, covered with a brownish coloured bark.

LEAVES, in old plants, which are not rendered luxuriant by moisture, very short and numerous, distinct, cylindric, and extremely blunt; whilst young, very slightly incurved;—when old, expanded, and pointing four ways, in all states shining with very minute papille.

FLOWER, solitary, bright-reddish-purple, resembling those of *M. glaucum*.

ters, terminating the little short lateral branches of suberect plants, and expanding in the lantern.

PETIOLES, short, cylindric, covered with small spangling papillæ.

CALYX, five-lobed, segments nearly equal, two pale, and definite of membrane; those with membranaceous edges; all of them covered with small shining papillæ.

FILAMENTS, very numerous, purple, expanding, and of different lengths.

ANTHERA, buff coloured, pollen, buff.

GERM, five angled.

STYLUS, two, longer for the size of the flower, sulphur coloured.

CARPALS, fastening above the inner part of the calyx, where it is deeply five angled, each angle with a grooved line down the back, marking the points in which the ripe capsule is to open or divide. Cells five.

SEEDS, numerous, very small.

R E M A R K S.

THE old firm shoots of *M. brevifolium* are struck with difficulty from cuttings, but the young and tender ones, root readily.

brevis-
lim
longum *MACMURRAYANUS brevifolium* presents very different appearances, according to the different age and treatment it receives. I have seen plants of it growing in the fall ground in the summer time, at the foot of a dry south wall, and in poor soil, with leaves as long as those of *hipidum*, and which measured an inch and an eighth in length, and were of a shape nearly sphericoid; the young shoots of the plants were covered with pilose papillae, which pointed downwards, and looked in a microscope like minute hooks of glass or ice.

WHEREAS the leaves of *brevifolium*, when not luxuriant, rarely measure a quarter of an inch; at least such was the case with fine flowering plants at Kew, early in October last, which had been out all the summer, and were then unhoisted, and had young shoots covered with small chryselline papillae; but the papillae were by no means pilose.

THIS difference in the leaves and shoots is merely the effect of soil and situation, not even forming a variety; but it is extremely puzzling to those who are young in the study of this extensive genus.

hipidum

hispidum *Mammecarandrum*, folia distanti-
(44) bus cylindrica, caule hirsuto, calycibus
globosis papulosis; flamentibus purpu-
rescentibus.

Michx. *hispidum*, Sp. Pl. 691.

Michx. *hispidum*, Egl. Fig. Lich. Ser. 1.
183.

Michx. *hispidum*, Egl. Nat. Gard. ser.
1. 345.

Michx. *hispidum*, 2. Atl. Hort. Kew. 1.
184.

Michx. 15. *hispidum*, *gibbum micum*, fo-
lia cylindrica pilis spinosis caule his-
pido, flore saepe roseo purpureo, *Wight's*
Natalum, 1. 163.

Michx. *hispidum*, 1. *Wight's Cat.* 184.

Michx. 31. *gibbum micum*, flore saepe roseo,
purpureo, *Rand's Chas.* 134.

Michx. 15. caule hispido, folia cylindrica
et spinosa, *Mill. Gard. Dic.* ed. 3.

Flavida astra, fruticosa, caule longius ar-
genteo armato folia ovata, parva longi,
paulo argenteo post flos, flore white-
co; *Booth. Ind. ab. Hort. Lag. Bot.*
part 1. p. 191.

Purple flowered leafy stalked fig-
marygold.

Native of the Cape of Good Hope.

Introduced.

Flowers most part of the year.

OBSERVATIONS.

Root, fibrous, branching every way, and quickly filling a small pot with radicles, which consume much water for a succulent plant.

PLANT, a low decumbent shrub.

BRANCHES, numerous, cylindrical, at first upright, afterwards incapable of supporting themselves, bending downwards in various decumbent directions; covered with white scattered short hairs, pointing different ways; whilst confined in a pot, never attempting to take root at the joints. But if planted in the full ground in summer, the branches extend themselves, two or three feet in length, trail upon the ground (keeping their youngest shoots only in an erect posture) and in some instances become rampant, by sinking roots from their joints, into the soil they are in contact with.

LEAVES, opposite, rather distant, cylindrical, of equal thickness to the very point, and sometimes beneath above; covered with roughish chrysaline papule, and looking like a piece of chagron.

FLOWERS, showy, of a very deep bright purple

purple colour, opening in a morning, pretty numerous in large plants, making a fine appearance.

FRUITAGE, arising from the side of the uppermost branches and leaves, cylindrical, very long, slender and thickened above, and covered with spreading or divaricating white hairs, which gradually disappear near the apex, by becoming extremely short chrysalidiform, or pubescent papule.

CALYX, smooth, covered with bristrous spreading papule, five cleft, segments nearly equal, obtuse, convex on the outside, concave on the inside, adorned with chrysalidiform papule.

PETALS, fewer than in some *Melambryanthus*, linear-lance, sometimes entire, sometimes with one or more indentures at the point.

STAMINA, filaments purple, of different lengths.

ANTHERA, buff colour, pollen, buff.

GERM, deeply five angled, angles blunt.

STYLUS, five, small, greenish.

CARPUS, deeply five-angled, five celled,

SEEDS, numerous, small.

trispalum Pale flowered bristly stalked Agave-
palatum gold.

At the time of the study, the following information was obtained from the participants:

Algebra, Analysis, & Synth. Nat. Phil.
 Tom. 2. 344.

McGraw, H. L., & Hill, E. (1907).

Melospiza melodia, Wilson's Warbler; *Melospiza melodia*, Wilson's Warbler; *Melospiza melodia*, Wilson's Warbler.

Myiarchus cinerascens, *Myiarchus cinerascens*, *Myiarchus cinerascens*
Cat. 18a.

Melospiza, 52; *phylum mirans*, *five purpureus pallidior*, *Rand's Class.* 114.

OBSERVATIONS

I am not sure that I have seen this plant; unless perchance it is the same as the plant which Mr. Lee tells by the name of *Aspidium lucidum*, which I believe to be a distinct species, and in their observations have named *Aspidium*.

Arctostaphylos *Arctostaphylos* foliis cylindricis, corollae bipalato; pedunculis, calycibus, laciniosis.

Address: _____

1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575,

Myiarchus cinerascens, *g. Alt. West. Prov. 184.*

1000

*Melast. hispidum, pilosum minus, flore
purpureo fructu, Wight's Marjorana, 1.
169.*

*Melast. hispidum fruticosum, Wight's Cat.,
182.*

*Melast. 52. pilosum minus flore purpureo
fructu, Rend's Chor. 134.*

Stem tomentose, densely stalked by corymboid.
Native of the Cape of Good Hope.
Introduced.
Flowers most part of the year.

OBSERVATIONS.

I BELIEVE this plant, which is the *M.*
hispidum with striate flowers of an-
thers, to be specifically distinct from
the *hispidum* of Linnaeus, and have
therefore placed it in the posture of a
species, rather than that of a variety
in these OBSERVATIONS, under the
trivial name of *fruticosum*, which is not
only expressive of one of the most
striking and permanent features of
the plant, viz. its striate flowers, but
keeps up the name the plant has
usually been handled by.

It might have been named *pilosum*, a term
applied to it by Willdow, as well as to
the *M. hispidum* and *M. hispidum* δ of
Linnaeus; and therefore equally be-
longing

belonging to the three; on which account I rejected it, for being almost the only one in its family with finite flowers, (except *bellidiflorum*, and perhaps some others which I have not seen bloom) it becomes the *testiflorum* extremely well. The term *lanuginosum* is applied by Boerhaave, in his *Index Alter Hort. Lug. Bat.* to one or two of the Linnean varieties of *hispidum*, which I do not much admire; for the plants are rather covered with hairs than wool.

M. stralavum is to be distinguished very readily from *M. hispidum* Lin. by the peduncles and calyxes when perfect, whether green or withered; and by the face of the plant itself, when those more striking parts are wanting.

THE peduncles and calyxes in *stratum* are very densely covered (more so than the branches of the plant) with woollyish hairs, particularly the calyxes.

BUT the uppermost parts of the peduncles of *hispidum* Lin. and every part of the calyxes, are not only destitute of hairs, but adorned with large sparkling chrysaline papulae.

IN *stratum* the leaves are covered with much rougher papulae than those of *hispidum* Lin.

THE stems and branches of *Shiaria* are usually covered with longer and much thicker set hairs than those of *hispida* Lin. which has its branches beset with shorter, often whiter, and more straggled hairs than those of *striata*.

As a leafy, *Shiaria* is rather the more bushy plant of the two, with shorter branches, and broader flowers, which I had almost forgot to mention, are composed of much broader, and denser disposed petals than those of *hispida* Lin. which has slenderer deep bright purple (some saturate purple Dill.) petals, set more straggling or separate, and I think fewer in number than those of *striata*.

If I had possessed any recent specimens of *striata*, I should have described them regularly and minutely, but I trust the above contrasted account, will at all times be sufficient, to distinguish the *M. hispida* Lin. from my *Shiaria*.

M. striata opens its gay striate flowers in the forenoon, is very often in bloom, and as the flowers are pretty numerous, they make a fine appearance when expanded, but are handsome the first time of opening than afterwards;

warts, for they lose their gypst colour long before they fade quite away. On their first appearance they are much like those of *M. belidiflorum*, and not altogether unlike those of *M. forficatum*.

I rather suspect in *Spec. Pl.* 491. must be wrong in placing the following synonym to this plant,—*Ficoides affinis sinoides africana folio longo tenui flore summo*, Brad. Succ. 4. p. 13. 1. 33.—at least if the synonym is rightly applied, (as from Linnaeus's investigation of Bradley's fig, which I have not seen, it ought to be,) at least I say, Bradley's character of the plant does not become it, but rather expresses *M. anserum* Lin. or my conjecture.

**Artellum MINIMENTANERUM* foliis confertis
(94) sub-cylindricis, obtusilobis, papuloso-
incaescentibus, caulis pedunculis-
que hispida, calycibus chrysalidibus
guttulis fasciculatis.

Dwarf hoily stalked fig-marygold.

Native.

Introduced.

Flowers July to October.

OBSERVATIONS.

A new species, unless perchance it may
be the same as the plant which, in
Rand's

Rand's Chalk is called *Melastreyanthemum mexicanum*, probably from purple pedicels, which I am inclined to think it is not ; Rand's plant was so named by Dillenius, and is the *hispidum* μ of Linnaeus, and hispidum pedicels of these caryocarpos, and a plant which I have had no fair opportunity of investigating.

There is another synonym before me which may belong to this plant, but I dare not say it does, I mean

Fremontia, *alba*, *fruticosa*, *caulis* *lanceolato*, *folio* *lanceol.* *parvo*, *brevis*, *guttato*, *flore* *violaceo*, Benth. *lind.* *alt.* *Hort. Lag. Bot. Pers.* 1. page 291.

DESCRIPTION.

Root, perennial, fibrous, much branched. PLANT, a much lower shrub than *hispidum*, more compact and dense.

BRANCHES, much shorter, and more covered with crowding, shorter, and smoother leaves than those of *hispidum*, so much so, as to be scarcely visible in healthy undecomposed plants; when the young branches are visible, they are covered with short white recurring hairs.

LEAVES, the full grown ones, slightly incurving, nearly cylindrical, but not

to

so completely so as those of *hispidum*, the youngest almost teracylindrical, all the leaves blunt, much shorter than those of *hispidum*, and more smoothly covered with hoarish shining chrysal-line papule, opposite, crossing each other in pairs, and where the plant is not drawn with heat, densely crowded or imbricated on the young branches, covering them almost from the light; whereas those of *hispidum* are neither crowded nor imbricate, but remote from each other when compared with those of *hispidum*.

THE leaves of *hispidum* are covered with rather prominent chrysaline papule and are deep green.

THESE of *frustum* are covered with prominent very rough, and as it were, piloseous papule or pointed chrysal-lineous, and are of a lighter green colour.

BUT the leaves of *hispidum* are covered with very smooth even papule, which gives them a waxy green, or hoarish colour, that sparkles when exposed to the sun.

FLOWERS, larger than those of *hispidum*, and much more showy when perfect, and when extended exactly the diameter of half a crown, opening in the forenoon ;

at

at the first opening flat, but after the second opening, or sooner, recurving, or rather revolute, which circumstance almost tempted me to call the plant *revolutum*; of a fine bright purple colour above, and white at the base, especially on the inside.

PERISTOMA, long, cylindrical, covered with horizontal white hairs up to the very base of the calyx, where the hairs are gradually shortened, recurve back, acquire more or less of a chrysaline coat, and become papulose, indicating that the hairs of all hairy *Meibomia*-*meibomia* are little else than elongated papulae;—when led from hence by a close analogy, we can perceive the prickles in scabrous *Aloe*, are a kind of elongation of their texture, or knob-like little warts, as appears by inspecting the nature of those warts in *Aloe uncinata-papilla*, *Aloe papillata microcarpa*, *Aloe variegata* Ait. Kew. and many others.

CAULIS, flatish, the lower part of it covered with glittering piliform recurving papulae, upper part with smooth shining chrysalineous, *figurae* flat, nearly equal, two plan, three edged with extremely thin, broad, white membrane.

FRUTUS,

PETALS, numerous, linear, attenuate at the base, emarginate, longer, broader, and longer than double of filaments, of a bright but not dark purple colour, much paler on their outside, white at their bases, beautiful when expanded, flat after the first or second expansion, recurring revolute.

FILAMENTS, yellowish white, expanding, numerous, of various lengths, encircling the germ at their base, benevolently fringed with oblong horizontal, irregular projecting chrysaline papule, of various lengths.

ANTHERA, yellowish white, pollen whitish, buff.

GERM, five angled, small deep green.

STYLUS, five, long, recurring, yellowish, roughish, with exceeding short drug-grith protuberances.

CAPITULUM, five call'd, smallish pentagonal.

SEEDS, I have not seen,

R E M A R K.

THIS is the plant which is called *M. hispida* humble at Mr. Lee's.

echina- tum album (34)	Mammillariarum foliis oblongis ovatis, subopacis gibbis camentoso- hispida, lacinis calycis solitariis.
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Alt.

Bot. Hort. Kew. 2. 194.

Syst. Nat. Genl. tom. 2. 345.

White ochreate fig-marygold.

Nat. of the Cape. Mr. Fr. Maffon, *Art. Kew.*

Introduced 1774. *Art. Kew.*

Flowers July to October.

OBSERVATIONS.

ROOT, fibrous, much branched.

PLANT, diffuse and fleshy.

STEMMUM, cylindrical, axillary, long, at first upright, afterwards decumbent, and very diffuse, sometimes covered thinly with bristly hairs, for the most part only with numerous roughish papule, which are greenish on the young shoots, and white on the old ones.

LEAVES, succulent and very gross, opposite, distich, expanding oblong-oval, convex on the under side, plane-concave above, echinate, or furnished on every part with straight strong white hair or bristles, which arise from large papulose punctations, are nearly upright, and sometimes hooked.

THE young leaves of *M. echinatum album*, when the plant is drawn up by the warmth of a stove, sometimes become entirely smooth, and smaller than

than usual, looking as if they belonged to another plant, but even in this state the roughened or verrucose remains most readily distinguish it from its near relation the *M. barbatum*, of Linnæus, (which is the barbatum micranthum, branching bearded fig-marygold of crickymen and others,) the shoots of which are never roughened, but constantly smooth.

PAUCIFLORUS, solitary, short, one or more arising from the same place, sometimes helped, sometimes not.

CALYX, five leaved, or deeply five cleft, segments unequal, three long and filaceous, that is, resembling the leaves of the branches, two very short with membranaceous edges, all of them more or less echinate, with short white bristly hairs.

FLOWERS, pretty numerous, small, opening in the fore part of the day white.

PETALS, linear, obtuse, entire, very little longer than the leaves of the calyx.

FILAMENTS, numerous and slender, often echinate, with short hairs, attached to the petals below, and converging about.

ANTHERA, very minute, yellow, oval, with a groove on one side, and fixed to the filaments by their sides, but towards the top. Pollen, of a deep yellow.

Germen, nearly hemispherical, or approaching to conical, with a hollow, or navel at top, smooth, shining, with five smoothish angles.

STYLUS, short, yellow, ovate-lanceol, expanding, veined below, and occupying the navel on the crown of the germen.

STIGMATA, simple, acute.

CAVITY, five angled, five cell'd, cells filled with numerous seeds.

SEEDS, small.

ADDITIONAL OBSERVATIONS.

THE old wry, firm shoots of this plant strike with difficulty from cuttings, but are exceedingly tenacious of life.

I HAVE known cuttings of this and the yellow var. next mentioned not six inches long, planted and treated in the usual way, and kept in a stove on a shelf, exist a whole year, from October to October, without losing many of their leaves, and without striking one single fibre; so strongly they retain their vital power! Is not this the old shoots root? the leaves of such cuttings were of course extremely far from plump.

but by no means destitute of sap. What tenacity of life! I am acquainted with no other *Melastromyrsinaceæ* capable of existing so long, without roots; it is as much as can be expected from an Aloe, or the succulent crown of *Broussia Anacua*, the pine apple.

The young and tender shoots strike freely from cuttings, even before a single un-*troughed* leaf decays.

achrasium There is a variety of the *Melastromyrsinaceæ* with yellow flowers, much more rarely met with in collections than the white one above described.

OBSERVATIONS.

I HAVE no recent specimen of it proper for description, or I should have described it.

In wet dried specimens the calyx leaves appear proportionally larger than those of the white flowered one.

The juicy leaves, and more particularly the flowers of this yellow variety, when heated, stain paper a strong yellow colour, which if it is, or could be rendered permanent, might possibly be turned to some account, as the juice might soon be produced, in almost
any

any quantity, by planting out slips in the fall ground, in the spring, which would shoot a great way before autumn, and produce abundantly more juice than the leaves of potted plants.

barbatum *MILACRANTHEMUM* foliis subrotatis,
(94) *papulis distinctis, apice barbato,*
ramulis prostratis decumbentibus, caly-
cibus pentaphyllis glabris.

Majandr. barbatum, Sp. pl. 691.

Majandr. barbatum, Syl. Fig. Litch. Ser. 1.
383.

Majandr. barbatum, Syl. Nat. Gmel. num.
2. 146.

Majandr. barbatum, 2. Bot. Hort. Kew. 2.
184.

Curtis's Bot. Mag. 70. exaltat.

Majandr. barbatum, Hill's Hort. Kew. 154.

Majandr. barbatum, 1. Wajon's Nursery-
man, 167.

Majandr. barbatum, 1. Wajon's Cat. 161.

Majandr. 9. Abner Bar. Ser. 2. 651.

Majandr. barbatum, Smith's Cat. 60.

Majandr. barbatum, foliis irregularibus
papulis distinctis apice barbato, Gmel.
Hort. Mon. 244.

Majandr. 15. barbatum, ramulis prostratis de-
cumbentibus. Rand's Gloss. 132.

Majandr. 14. foliis irregularibus decumbentibus
foliis ovatis apice barbato, Hill. Gard.
Dir. vol. 7.

Pinella capensis *trunc folia, apiculata lacinia*.
Peri. Gen. 1. 77. Figure 9, which
 is printed 6. in *Sp. Pl.* 691, and
 is either a slight mistake in Linnæus's
 writing down the No. of the Figure, per-
 haps from hastily seeing the book sideways,
 or the wrong way upwards as he wrote
 it; or merely an error of the printer from
 an inversion of the figure 6.

Linnæus in *Sp. Pl.* 691, gives the following
 synonym, which I have had an opportunity
 of examining.

Hort. cliff. 116, 120. 3. 1

Hort. ups. 117.

Rep. herb. 113.

Bot. Linn. (naming Miller's Plate in his
Diff. 1. supp.) 1. 176. f. 3.

Abstract. radiatum, caudis pediculis raris.

Pinellus. Linn. edib. 145. 1. 170. f.
 134.

Pinella capensis frutescens, folia, caudis
extrorsis, foliis fere purpureis. *Brod.*
Succ. 1. p. 6. t. 3. & 13.

Fine Pinella, folia, trunc, in vitro radiatus
abundans, fere rubra *Falk. Sep.* 113. t.
 114. l. 6.

Trailing bearded fig-marigold.

Native of the Cape of Good Hope.

Cultivated 1714, by Soc. Art. E.

Flowers most part of the year.

O B S E R-

OBSERVATIONS.

Root, fibrous, branched.

Plant, a low spreading decumbent bush.

BRANCHES, cylindrical, slender, woodyish, arising opposite, and often alternate from the axilla of the leaves, diffusely spreading or trailing; elongated, and smooth, with ascending points.

LEAVES, opposite, distich, very minute, (when compared with those of *Luratum* β and γ Lin. which are very trifolium and denser) nearly cylindrical, with a just perceptible attenuation towards the points, and very slightly plane above near the base, — blunt at the points, which terminate with from three to five subulate, whitish, radiating, bristly hairs, each arising from a small dark brown, often prominent gland, best observed in a glass. The leaves are less than those of my *Luratum*, and beautifully studded with large, regular tubercles, or pitted papulae, which are roundish-cone, smooth, and when closely examined, bear no small resemblance to a piece of fine thagron.

FLOWERS, not numerous, bright purple, smallish, opening in a funnel.

T 4

PASCUM,.

PETIOLES, sessile, solitary, sessile, as long or more long, entirely destitute of hairs, cylindrical, thickening near the calyx, covered with minute shining papule.

CALYX, five leav'd or five cleft, smooth and papulose, segments unequal, two much longer and flatter than the rest, foliaceous, or like the leaves of the branches, ending in similar radiating hairs; the third segment longer than the remaining two, but much less than those already mentioned; often with a subulate point, and a membranaceous edge on one side, rarely on both; the two remaining segments much shorter and less than all the above, with membranaceous edges on every part, but rarely any radiating hairs on their points.

PETALS, five bright purple within, paler without, not very numerous; inner ones paler, and extremely narrow.

FILAMENTS, white, and stout, shortish; some of them, though rarely, furnished at the base with white papulose spreading hairs.

ANTHERA, largeish, yellow, oblong, furrowed.

GERM, five angled, smooth, and small.

STYLES,

Stylis, only five, in the specimens I have dissected; I had only two to dissect; greenish, broad at the base, but sharply foliolate and short.

I think I have noticed before, that the Litchfield Society, in the translation of Linnaeus's *Genera Plantarum*, gives ten styles to *M. barbatum*.

CAPULE, five angled, small, five cell'd, not fleshy.

SEEDS, small, rarely ripening.

hirsutum *MENEMBRYANTHEMUM*, *caerulea hirsuta*,
(95) *folia, lanceolobricordato-angulata, apice*
barbata, basi ciliata scabundo-papulosa,
calycibus sex vel septemphyllis,
inæqualibus.

Agnesbr. barbatum 2. *Sp. Pl.* 631.

Agnesbr. barbatum 2. *Syll. Nat. Tam.* 2.
846.

Agnesbr. barbatum 2. *Art. Hort. Kew.* 2.
154.

Agnesbr. barbatum minus, *Wylson's Nursery-*
man, 1. 169.

Agnesbr. barbatum, minus, *Wylson's Cat.* 161.

Agnesbr. 16, *radicans hirsuta, foliis serratis,*
Rand's Charf. 132.

Forsteri, flos flos strander, africana flos
variegata affinis ad apicem foliis pinnatis,
Burch. Ind. ab. Hort. Lug. Bat. part 1.
p. 292.

Hairy

Hairy stalked radseed fig-starygold.

Native of the Cape of Good Hope.

Introduced.

Flowers June to October.

OBSERVATIONS.

ROOTS, fibrous, not much branched or matted.

PLANT, forming in time a very low branched shrub.

BRANCHES, short, at first upright, afterwards decumbent, not quite cylindrical, set thickly with leaves, and covered with numerous short white horizontal hairs.

LEAVES, oblong, semicylindric, but tergid, grove, of different sizes, some of them nearly as large as those of myrsine, and others, though rarely smaller than those of barbatum. Lvs. just defined, blunt, terminating in from 20 to 40 white radiating hairs, each arising from a pale brown gland; —nearly coriaceous, at the back on each side, usually ciliate, with a few strong white bristly hairs —the largest leaves all over regularly covered with hard, rigid, roundish, oblong, projecting papule, each of which, especially when viewed in a glass, terminates in a very short,

short, white, stiff, bristly, close pressed hair, directed upwards, which occasions a great roughness to the touch ;—between these rough pointed papule, the microscope discovers innumerable other papule, of a much smaller size, and resembling those of the generality of *Melastromaceæ*.

FLOWERS, pale purple, less than those of my dentata, which is the barbatum ;
 Lin. and the next plant described, larger than those of barbatum Lin. the last plant described.

PROSTRATA, at first, terminating the young branches, but afterwards rendered axillary by the protrusion of new shoots from the side of the uppermost leaves ; cylindrical, as long, or longer than those of barbatum Lin. but much flatter, and covered with white horizontal hairs.

CALYX, six leaved, or six cleft, (in some specimens before me, seven cleft) covered all over (except the segments) with long white bristly hairs ; segments blunt, unequal, not covered with hairs like the other part of the calyx, but with roughened, pointed papule, like the leaves of the plant, which they much resemble ; the two largest segments above twice the size
 of

of the others, foliaceous, cylindric-oblong, ciliate at the base on each side, terminating in from twenty to thirty white bristly radiating hairs, arising from pale brown glands,—the two next or middle sized segments, about a third the size of the two last, membranaceous on one side towards the base, and slightly ciliate on the other, rather foliaceous, terminating in from six to twelve radiating hairs, like those of the former. The two or three last, or remaining segments, about half as large as the two last, membranaceous on both sides, with scarcely foliaceous, projecting, nearly conical, roughly papulose points, which terminate in about six bristly radiating hairs, like those of the other segments.

PETALS, more numerous, larger and longer than those of *barbatum* Lin. pale purple within and without.

FILAMENTS, numerous, convergent, short and stout, many of them furnished with chrysaline papulose bristles towards the top, some of them barren, or destitute of anthers, almost partaking of the nature of the petals.

ANTHERS, large, pale, heart-oblong, furrowed.

GRAIN,

{ yet }

GREEN, not fleshy, but fleshy.

STEMS, fr. extremely short, green.

CARFELS, six celled.

SEEDS, very small, not numerous; ripe
when I never saw.

ADDITIONAL OBSERVATIONS.

By what principles of combination the
great and accurate Linnæus could
unite this plant with *lin. barbatum*, I
am entirely at a loss to conceive.

He appears by his account in *Sp. Pl.*
691, to have examined even the
fructification of both plants, and yet
he unites them; by so doing, all the
best points or limits of specific distinc-
tion, in this extensive genus, are, in
my way of thinking, at once blunted,
wounded and destroyed.

THE plants agree in nothing but their
radiating points and purple flowers,
and even in the best of their particu-
lars they vary in number,—*lin. bar-
batum* α . having about three or five ra-
diating hairs at the termination of its
leaves,—*barbatum* β . often above a
score.

They disagree, and I think materially,
in a great many substantial particulars,
most of which I apprehend are alone
sufficient for the establishment of a
species,

species,—*a.* has cylindrical—*p.* serrate-lanceolate leaves,—*a.* has smooth papule,—*f.* rough bristle-pointed papule,—*a.* has short, bifid branches,—*f.* trailing, elongated, smooth ones,—*a.* has smooth pedunculi,—*f.* hairy ones,—*a.* has a five-leaved calyx,—*f.* a six or seven leaved one,—in *a.* the calyx is smooth,—in *f.* bifid,—*a.* has five styles,—*p.* six,—and *a.* has a five celled capsule,—*p.* a six celled one.

In a word, *M. barbatus* *p.* *L.* is as much allied to *M. echinatus* as to *M. barbatus* *L.* as appears by its bristle-pointed, or as it were, sub-echinate papule, &c.—from *echinatus*, however, it is abundantly distinct, as appears by the minute descriptions of each above given.

Deslan
(94) *MIMOSANTHEMUM fascicul.* foliis densissime-serbaceis, cernatis, serratis-lanceolis, supra sub-concavis, apice hirsuta, calycibus hemisphaericis, sub-aequalibus bilobis.

Mimosbr. barbatus, *v.* *L.* *Sp. Pl.* 691.

Mimosbr. barbatus, *v.* *Syl. Nat. Gmel.*
Tom. 2. 346.

Mimosbr. barbatus, *v.* *Alt. Hort. Kew.* 2.
184.

Mimosbr. barbatus major, *Wegber's Nurfry-*
men, 1. 169.

- *Mimosbr.*

Melastom. barbatum majus, *Weyher's Cat.* 162.

Melastom. rubrum humile, *Salis majoribus*,
Rond's Chrob. 132.

Melastom. 13. *acutis*, *foliis apice barbatis*,
Mill. Gard. Dic. ed. 7.

Flouder, *pro flor. ascendit*, *Africana*, *foliis*
marginato-angustis ad apicem folii simpliciter
ematis; *flor. rubris*, *Barb. Ind. Afr.*
Amer. Lug. Bot. Para. 1. page 291? I
should not have applied this synonym, if I
had not observed Miller had given it, in
the 7th ed. of his Dictionary, under the
headed *Melastromyrrhaceum*, which he
terms "*acutis foliis apice barbatis*," and
which is therefore in all probability my
design.

Dwarf beaded rusty fig-merrygold.

Native of the Cape of Good Hope.

Introduced

Flowers May.

OBSERVATIONS.

As I have only dried specimens of this
plant in flower, I cannot be so parti-
cular in my description of it as I could
wish.

DECAEN, Miller, and all the writers
before the great LINNÆUS, considered
this plant as specifically distinct from
the plant I have named *barbatum*
above, but, he thought proper to
join

joins it also to his *barbatum*, from which I conceive it to differ specifically in having scirpoid, densely imbricated, larger leaves, and bilfed pedunculi and calyxes.

From my *hirtatum*, I also conceive it to differ specifically in being nearly stemless, having larger leaves, densely imbricated, and almost smoothly papulose; covering every part of the stem; and nearly equal six leaved calyxes.

DESCRIPTION.

THE following description, it is proper to mention, is made from a fine living plant, which has not yet produced flowers, and from two dried specimens, in flower, all lying before me; near which also lie living specimens in flower, of the two last described species, *barbatum* and *hirtatum* of these observations.

Root, stems, not spreading far.

PLANT, whilst young, densely covered with leaves, and stemless, acquiring by age, very short branches, entirely covered from the sight by leaves and leafy branches.

BRASERS, in young plants, none; in very old ones, extremely short and crowded or clustered; arising opposite

or alternate, from the axils of the leaves; and in healthy plants completely hid from the light, by lesser and still shorter branches, and densely crowded imbricating leaves.

In plants drawn by the heat of a fire, the little branches become just faintly elongated, or lengthened out in the joints, so that they are hairy when wither.

LEAVES, crowded, densely imbricate, excluding the branches entirely from the light; coarsen, oblong, fronsylindric, slightly coarsen above, and when closely examined, rather ciliate at the base, but not so much so, as those of *hirsutum* of these *ONCEVATRON*,—covered with oblong pointed papule, not hispid, to the touch like those of *hirsutum*, but smooth, and looking in the microscope like pointed scales lying close to each other, but not in contact; with no lesser papule between them when viewed in the glass, as is the case with those of *hirsutum*;—leaves terminating in ascending blunt point, which are furnished with from about fifteen to thirty or more radiating almost spinose bristles, which are about a quarter of an inch long, whiter, longer

and stronger than those of *hirsutum*, and arise from larger and higher coloured glands, which glands are united at the base, and placed round, or fixed to a circular, flat whitish ligneous substance or body, which separates from the blunt points of the leaves, with a slight gulf, and leaves a hollow or navel, which it occupied there.

FLORULA, larger than those of *hirsutum*, bright purple.

PERICARPIA, longer than those of *hirsutum*, covered with hispid bristles; much thickened from the middle upwards.

CAULI, in the specimens before me, which are the only ones I have ever seen, six-leaved or parted; segments, foliaceous, nearly equal, with from ten to thirty radiating bristly hairs each, at the points.

PETALA, much larger and broader than those of *hirsutum*.

FILAMENTS,	} I have not examined.
GERM,	
STYLES,	
CAPULE,	
SEEDS,	

++++ SUPRAUESCENTIA FOLIIS TRI-
ANGULARIS.

perfoliatum. MARCHENTANEUM, articuli cras-
(25) siliis terminatis foliis cordatis, acumi-
natis, punctatis, glauca triangulari, sub-
tus trifurcata.

Alphandr. maximum, *q. Lin. Sp. Pl.* 134.

Alphandr. maximum, *A. det. Hort. Kew.* 1.
187.

Alphandr. 25. *perfoliatum majus, foliis trian-*
gulari glauca punctata, Willd's Hespery-
man. 1. 170.

Alphandr. quinatum majus, Willd's Cat.
161.

Alphandr. 21. *perfoliatum, foliis majoribus*
triangulis, Rostk's Chryf. p. 130.

Alphandr. 19. *perfoliatum foliis majoribus,*
apicibus triangulis, Mill. Gard. Dic. ed. 7.

Pinus africana frutescens, perfoliatum foliis
triangulati, glauca punctata acutis longis
caudatis, tenui, Boerb. Ind. ab. Hort. Lug-
Bat. Pers. 1. p. 152 ? *As this fungus is*
applied to the plant by Miller, I have in-
ferred it; but scarcely believe it to belong
to the plant.

Greater hooked leaved fig-marygold.

Native of the Cape of Good Hope.

Cult. in 1714, An. K.

Flower June to September.

OBSERVATIONS.

Ten is the plant which Miller named *perfoliatum*, in the last edition of his Dictionary, (I think,) where he treats it as a plant specifically distinct from the *uncinatum* of Linnaeus.

It is a plant I have seen much of,^a and often observed, and am convinced it is distinct from *uncinatum*, as much as it is necessary for two plants to be, in a botanical point of view. Linnaeus however thought proper to unite them, as one species, by the name of *uncinatum*.

I am acquainted with some groups of plants, whose specific differences rest upon much more slender foundations than the difference observable at all times in the leaves and shoots of these two *McIncheyanthema*.

The leaves and branches of *perfoliatum* are not only larger and almost white, but the former have usually three, sometimes four denticulations, or spines, underneath their points, when full grown.

Whereas the leaves and branches of *uncinatum* are not much above half the size of those of *perfoliatum*, nearly of a green colour, with never more than

than two dichotomies or spines beneath the points.

I have seen the flowers of *perfoliatum* several times, and in several places this season, but have not been able to procure a specimen for description.

THE flowers are purple, of a good size, but not showy, and arise axillary and sessile, from the hollow of the uppermost leaves of the plant, and open in a morning.

FRUITING, apparently none.

uncinatum — *BLENNIANTHEMUM*, articulis caulis-
 (56) — terminatis, foliis cuneatis, serratis,
 minora, brevibus, punctatis, triquetris lobis dentatis.

Myiandr. uncinatum, Sp. Pl. 832.

Myiandr. uncinatum, Syl. Met. Ocul. tom. 2, 246. including the above *perfoliatum* as a var.

Myiandr. uncinatum, Syl. Fl. Linc. Soc. 1, 183.

Myiandr. uncinatum, n. Act. Hort. Kew. 2, 126.

Myiandr. uncinatum, Hall's Hort. Kew. 154.

Myiandr. uncinatum, *perfoliatum* minus, articulis, caulis terminatis in folia cuneata, serratis lobis dentata, Welch's Nat. System, 1, 168.

Myiandr. uncinatum, 1, Willd's Cat. 162.

Melast. 14. acuminatum, (including the above
perfoliatum as a var.) *Africanum*. *Bot.*
Art. n. 632.

Melast. 20. perfoliatum, *foliis minutis*
diversis, *Kand: Cliff. 131.*

Melast. 18. oviculis ciliatis apiculatis in
foliis aristatis foliis dentatis, *M&L Gard.*
Dir. ed. 7.

Fronds of the, foliis triangulari plana, perfo-
late brevissimis apic. simplic. Barb. Ind.

Alt. Hort. Lug. Bat. Pars. 1. pag. 230?
Lett'er back'd leav'd fig-marygold.

Native of the Cape of Good Hope.

Introduced

Flowers June to September.

OBSERVATIONS.

I HAVE seen this plant flower, but have
no specimen in bloom proper for de-
scription, and as I have pointed out
the particulars, in which I conceive it
to differ from *perfoliatum*, under my
account of that plant, it is unnecessary
I presume to repeat such particulars
here.

I SHALL be censured, and I am aware of
it, for separating the *uncinatum majus*
and *minus* of the old authors, which
the great *Linnaeus* has reduced to one.
But I have *Miller*, that prince of practi-
cal Horticulture on my side ;
Miller,

Miller, the only Botanist, who could ever boast the long well earned experience of nearly fourscore years, all surrounded by the most favourable situation and opportunities, and all devoted to observation, experiments and practice!

MILLER was not only the favourite of his own countrymen, but foreigners also paid him such tributes of praise his fame and publications deserved.

Dr. FULTON in his agreeable *Progress of Botany in England*, tells us, v. 2. p. 243. they enthusiastically styled him,

"*ROSELANORUM PRINCEPS.*"

He also acquaints us, that the great LINNÆUS himself said of his Dictionary,

"*NON ERIT LINNÆON ROSELANORUM
SED BOTANICORUM.*"

So much for poor Miller; he also! who pleased so well, or rather let me say, he who instructed and edified so much, and was revered even by the great, whilst living, now him forgotten by his friends, inhumed amongst the undistinguished dead, in the bleak cold yard of Chelsea church,—the very theatre of his best actions not half a mile distant!—without a tomb!—without a bone!—nay, destitute of a

single line, to mark the spot, where
 rests retired from all its cares, and
 useful toils, the time-worn frame of
 the Prince of Horticulture.

THE very theatre of his best actions, (the
 Physic Garden of the worshipping Com-
 pany of APOTHECARIES at Chel-
 sea,) was half a mile distant.

How are those discerning foreigners, who
 is marvellously readured the language
 of his Dictionary into their own, to
 judge of this?

By what standards are they to estimate the
 fact?

THE following short account of Miller,
 from the great respect I have for the
 abilities he possessed, I shall beg leave
 to insert in this place.—I have taken
 the liberty of extracting it from the se-
 cond volume of Dr. Polkney's agree-
 able "Progress of Botany in Eng-
 land."

" PHILIP MILLER was born in the year
 " 1691, his father was gardener to the
 " Company of Apothecaries at Chelsea,
 " and his son succeeded him in that
 " office. He raised himself by his
 " merit from a state of obscurity, to
 " a degree of eminence, but rarely if
 " ever equal'd in the character of a
 " gardener. It is not uncommon to
 " give

- " give the term of Botanist to any man
 " that can recite by memory the plants
 " of his garden.
 " Mr. MUMFORD rose much above this
 " estimation. He added to the know-
 " ledge of the theory and practice
 " of gardening, that of the structure
 " and characters of plants, and was early
 " and practically versed in the me-
 " thods of RAY and TORRENTIUS,
 " habituated to the use of these from
 " his younger years, it was not with-
 " out reluctance that he was brought
 " to adopt the system of LINNÆUS, but
 " he was convinced at length by the
 " arguments of the late Sir WILLIAM
 " WATSON and Mr. HORROCKS, and
 " embraced it.
 " To his superior skill in his art, the
 " curious owe the culture and preser-
 " vation of a variety of fine plants,
 " which in less skillful hands would
 " have failed at that time to adorn the
 " conservatories of England.
 " He maintained a correspondence with
 " many of the most eminent Botanists
 " on the continent, amongst others,
 " with LINNÆUS.
 " He was admitted a member of the
 " Botanical Academy of Florence, and
 " of the Royal Society of London, in
 " which

- " which he was occasionally honoured
 " by being chosen of the council.
 " Mr. MILLER was the only person I
 " ever knew who remembered to have
 " seen Mr. RAY; I shall not easily
 " forget the pleasure that enlightened
 " his conversation, & so strongly ex-
 " posed the erroneous views which,
 " when in speaking of that revered
 " man, he related to me that incident
 " of his youth.
 " Mr. MILLER's information induced
 " him to resign his office in the garden
 " a little time before his decease,
 " which took place December 18,
 " 1771, in the 40th year of his age.
 " He left a very large Herbarium of
 " exsiccata, principally the produce of
 " Chelsea Garden."

Palmer's Progress of Botany in England.
 Mr. MILLER was the author of several
 publications, besides the very nu-
 merous volumes of his Dictionary and
 Calendar.

- *viride *MANISSEYANTHEMUM foliis perfoliatis,*
 [97] *triangulo-lanceolatis, acutis, as-*
 pergatis, apice uncinato-recurvis.
 Green perfoliate hook'd fig-marygold.
 Native of
 Introduced

A new species.

Flowers in July.

DESCRIPTION.

VERY much like *umbellatum*, but entire leaf'd, and deep green in every part, except the flowers.

Roots, perennial, wiry, and few.

PLANT, shrubby, woody.

BRANCHES, opposite, axillary, arising from the base of the leaves; when young, woody.

LEAVES, perfoliate, of a fine shining green colour, punctate, expanding, between triquetrous and semicylindrical, lobulate, very acute, ending in a fine white recurving or bristly point, which is hooked and very hirsute.

FLOWERS, I have seen, they are few, solitary, tubercled, small; make a poor appearance, and open in a forenoon.

I am sorry I possess none for description.

umbellatum *Mahoea umbellata*, foliis ovato-perfoliatis serratis, triquetris, lobulatis, punctatis, apice lobulato-recurvis, acutis, angulo cartilagineo-hirsutis.

(98)

Small ovate fig-marygold.

Native of

Introduced

A new species.

Flowers in July.

DESCRIP.

DESCRIPTION.

Root, very slender, wiry, and trifling.

PLANT, a weak shrub, a foot high.

Stems, in the plant before me, axillary, chiefly alternate, small, but not short, cylindric-compressed, wiry and slender, marked with the sheaths of the perfoliate leaves, if they can so be called, when there is a channel'd line run down the middle of the sheath to the base, but does not fairly separate the leaves.

Leaves, perfoliate, or as some may think, only connate, sheathing the branches, with a channel'd line, running up from the origin of their sheaths on each side, to where they expand—opposite, roughly punctate green, or slightly glaucous-green, the smallest of all the perfoliate fig-marygolds I have seen, being from a quarter to half an inch long, very slender, sharply trigonous, slightly serrulate, with fine white-recurving points, and fimbriate, almost serrulate keels.

Flowers, very small and white.

FRUIT, somewhat two flowered.

REMARKS.

REMARKS.

The general appearance of this plant is like that of *M. viride* of these orient-varieties, but it is not more than a third as large in all its parts, and roughly punctate and slightly glaucous; whereas *viride* is deep green, luscid, and smooth.

It can scarcely be the same as the *M. capillare* of the *Supplementum Plantarum* of the younger Linnaeus.

**imbricat-*
um
(99) *MELASTOMACEAE* *pedunculis filiformibus brachiis foliaceis imbricatis, foliis perfoliatis glaucis triquetris-ternatis.*

Imbricated fig-marygold.

Native of

Introduced

A new species.

Flowers in July.

OBSERVATIONS.

I saw this plant flower in July last abundantly; it is closely allied to the next described species, and very much like the last in some particulars, but is not large again in all its parts, with pedunculi involved up to the very calyx, with perfoliate,

perfoliate, imbricate, bracted leaves which are much like the leaves of the branches, but less and bayer of florets, and much more crowded upon each other.

Flowers, appear in July, white, as large again as those of *imbricata*.

I regret I have no specimen in flower by me to describe this plant from.

**malid-* *MIMULANTHEM* folia glaucis per-
ram foliis, triquetris floribus aggregatis
 (100) sub-sessilibus.

Mary flowered fig-marygold,

Native of

Introduced

Flowers July.

A new species.

OBSERVATIONS.

I am sorry I have no recent specimen of this plant in flower to describe.

This plant is much like the last, so much so indeed, that I dare not warrant them to be specifically distinct, until I have had further opportunities of examining them. *Multiflorum* appears to differ abundantly from *imbricatum* in the very great quantity of flowers which cover its branches; those of *imbricatum* producing only a few flowers.

Flowers,

Flowers, in umbelliform, white, the size of those of *induratum*, and like them.

brachy- *MIMANTHANUS* foliis subcin-
 tum ciseatis punctatis, apice recurvis,
 (1841) bracteis ampliusculis into ovatis
 carinatis.

At. Her. Kew. 2. 135.

Syl. Nat. Gen. Tab. 2. 345.

Agnes. 17, *serotum folium, petala
 purpurea circumscissa, Rost's Glos.* 132.

Bracted *fig-marygold*.

Nat. of the Cape of Good Hope, Art. K.

Cultivated 1732, Art. K.

Flowers July to October.

OBSERVATIONS.

ALTHOUGH this plant is figured in the
Hortus Ebrauzensis, as appears by the
 reference from the *Hort. Kew.* of
Arion; no mention of it is made in the
 following books, which I have searched,
 and which are now lying open before
 me.

Lin. Species Plantarum, ed. 1754.

Syl. Veg. Lich. Soc.

Mill. Dic. ed. 7.

Welton's Nurseryman.

Welton's Cat.

Abercrombie's Bot. Arr.

Hill's Hort. Kew.

Tan

The following is a description drawn from a living specimen, of what I take to be the *M. lucidum*.

PLANT, shrubby, slender, not very much branched, upright.

BARK, covered with a brownish coloured bark, soft, when young, but slender, usually more or less scapitose, by taking slight winged membranes from the decurrent beds of the leaves.

LEAVES, opposite, distinct, sub-obovate-form, or triquetrous-compressed, slightly incurving, rather roughly punctate, with small, acute, recurving, cartilaginous hooks at the points, which frequently acquire a purple tinge.

FLOWERS, terminating the branches, of a bright red or purple colour, radiated, opening in the fore part of the day.

PEDUNCLES, short, scapitose, terminating the branches, and each supporting one flower.

BRACTEÆ, two, investing the pedunculi just beneath the calyx, which they partly embrace, broad, ovate, sharply carinate, pinnate, membranaceous towards the edges, and terminating in a small recurving point, similar to the little cartilaginous hooks which terminate the leaves of the branches.

CALYX,

CALYX, five cleft, pentagonal upwards, taking its angles from the horns of the segments; segments, five, panduræ, nearly equal, or two plain, and somewhat less than the other three; which three are rather longer and membranaceous towards the edges; all the segments much broader at the base than at the points; or, subulæ horn'd; or, triquetrous, resembling the leaves of the plants, ending in similar recurving cartilaginous points.

PETALS, numerous, of three kinds or distinctions. The outer ones very long and narrow, unequal, and of a bright purple colour. The next series much shorter and narrower than the last, unequal, purple above, whitish-yellow at the base. The third or innermost series very short, unequal, still narrower than the last, converging, all yellow, of a singular, somewhat fuscous azure, or resembling in structure the wax filaments, shining in the microscope, with beautiful and sparkling crystalline minute papillæ, tapering to a very slender hair-like point, and quite covering up the filaments beneath them from the light.

FILAMENTS, very few, very short, very slender, or almost capillary, entirely

X

covered

{ 312 }

covered from the light by the above-
yellow, converging flammiform petals.

ANTHEA, whitish-buff, very small.

GRAM, small, smooth.

STYLA, five, very short and green.

CAPULE, five angled, small.

SEEDS, I have not seen.

ADDITIONAL OBSERVATIONS.

THE abovementioned flammiform filaments are of a very singular nature, making the plant almost appear like a thing of a different genus; for the flower radiating by its long outward petals, and diff-like from its central yellow, short, upright, or converging, imperfect flammiform petals, has much the air of a compound syngnethous flower.

*radiatum *SPERMATOPHYTES*, foliis longis, sub-
(102) *equilateralis-tripectris*, basi *incrassatis*,
apice attenuato-uncinatis, floribus bracteosis, bracteis *tripectris* *ramulosis*.

Radiated fig-marigold.

Native of

A new species

introduced

Flowers August to November.

OBSER.

OBSERVATIONS.

THE following is a description of a fine specimen taken from a plant, sold by Mr. Lee, under the name of *Blakley-hypochaeris radicans*; it appears different from *bracteatum* just described, in its bristly and longer and more equilateral leaves, but may on further examination prove the same.

DESCRIPTION.

Root, perennal, fibrous.

PLANT, a weak slender shrub, about two feet high.

BRANCHED, slender, upright, covered with a whitish brown coloured bark, and somewhat scabrous, particularly while young.

LEAVES, opposite; whilst young, appearing as if sessile;—when old, as if distinct; as long again as those upon my specimens of *bracteatum*, the longest being regularly about an inch from the base to the point, on a plant which has stood in the open air all summer; whereas the longest on a plant of *bracteatum*, which has also stood out all summer, are not more than half an inch,—and both plants have been under equal health, age, and treatment.

X 2

FLOWERS,

Flowers, bright purple, radiating, almost as large again as those on my specimen of *bracteatum*.

Procretae, terminating the branches, longer than those of *bracteatum*,—bristled.

Bractes, larger, longer, more triquetrous, and not tapering so suddenly to a point as those of *bracteatum*.

Petals, bright shining purple, linear, some of them near an inch long, attenuate downwards, end-nick'd, innermost lobes resembling those of *bracteatum*, yellow, subulate, very narrow, shining, and of a singular nature, looking, especially in the microscope, like a little bunch of yellow tufts in the centre of the flower, from which, although converging, they gently diverge in every direction, and are more numerous than the true petals, becoming less and less towards the centre, where they very nearly resemble the true filaments of the plant, which are enveloped under their protective shade;—they also bear a distant appearance to the central frings like rings, which are so much admired in the flowers of all the known species of *Pastilora*; an ample and very curious account of which rings, by Mr. Sowerby, (or Neotoma,

taria, as he rather seems inclined to consider them,) I would recommend my reader to peruse, in the excellent *Translations of the Linnean Society of London*, vol. 2. page 17.

FILAMENTS, short, white, occupying the concavity formed by the convergency of the short inner petals.

ANTHERA, of a middle size, white; pollen, white.

GERM. unshaped or roundish.

STYLUS, greenish, expanding, longer than those of *brassicatum*.

CAPITUL. five angled, five cell'd, fleshy.

SEEDS, few, whilst in the green capsule, resting in pulp, white, extremely small, orbicular-kidney shaped, and furnished with a very singular appendage or string, several times their own length, and of a curved figure, by which they are probably affixed to the capsule — This curving filament or string is doubtless of the same nature as the short petiole, that supports the seeds of leguminous, and possibly most other plants, and is apparently destined to perform an office somewhat analogous to that of the umbilical cord of quadrupeds.

I regard it a curious object in the microscope.

CAULI, ¶ had forgot to speak of; it is five parted, segments not quite equal, two being longer, equilateral, and plain; the three others shorter and membranaceous.

Stems see the appearance in my specimens.

*compress- *Meibomiastrum folia trigonis*
sum? , apice recurvis basi sub-membracea,
(103) pedunculis sub-terminatibus, sub-radiis.

Compressed herb'd lig. marigold.

Native of

Introduced

Flowers July to October.

A new species I believe.

OBSERVATIONS.

In the spring of the present year, I saw in a collection near London, a *Meibomiastrum*, named *compressum*, which was sent from some Nursery near London, by that title. I collected no specimen of it at the time, which I now regret, for I am entirely at a loss to know whether it is the plant I am just going to describe under the queried name of *compressum*, or distinct from it;—I think it is the same, but cannot be sure;—my specimen is from Kew, and now lies before me,—it may be the same as *brachyotum* Hort. Kew. but I think it is not,—or it may be the

the same as a *Malabarathum*. I saw in another Collection last spring, called *foliatum*, which had triquetrous leaves; of this last I obtained no specimen, but shall make mention of it in the division "lanceolate tribes," at the end of these observations, by the name of *foliatum*;—it had triquetrous (not barbate) leaves.

DESCRIPTION of the above-mentioned specimen from Kew, which I fancy to be the same as the species I saw named *compressum*, but cannot assert it.

PLANT, shrubby, upright, like *bracteatum*, but a little denser.

BRACCEAE, alternate, somewhat firmish, denser than those of *bracteatum*.

LEAVES, like those of *bracteatum* and *radiatum*, but firmer than those of either, with slight membranaceous edges towards their bases, which are best observed in the uppermost leaves.

CAULIS, like that of *bracteatum*, viz. five sided, segments subequal, three membranaceous, two plain.

FLOWERS, larger than in my specimens of *bracteatum*; less than in my specimens of *radiatum*; in other particulars nearly the same.

PETALS, FILAMENTS, ANTHERS, GERMEN, STYLE,	}	Nearly the same as in <i>bracteanum</i> .
--	---	--

PEDUNCLE, not so thickly bracteate in my specimen;—extremely short, if we do not call it bracteate;—extremely long, (compared with that of *bracteanum*;) if we do call it bracteate, being naked below the leaves, which answer to bracted leaves, for one inch and an half.

The peduncle in my specimen (and there is only one upon it) is not terminal, but arises from the axilla of the uppermost branchlet, which branchlet is produced from the before of those leaves which answer to the bracted leaves of *bracteanum*, but are narrower, shorter, and more like stem leaves than the bractes on the peduncle of *bracteanum*; which (bractes) I never saw produce the least vestige of a shoot from their before.

The different extents of the recent flowers of *bracteanum*, *undatum*, and *compressum*, in my specimens, are as follow:

M. bracteanum has flowers almost the diameter of a shilling.

M. und-

M. radiatum has blossoms very considerably more than the diameter of a crown;—and

M. coccineum has blossoms almost the diameter of half a crown.

glaucous *Mammillariastrum* foliis triquetris
(104) acutis pinnatis distinctis calycibus foliis ovato-cordatis.

Sper. Plant. 698.

Syll. Flg. Lich. Ser. 2. 384.

Syll. Nat. Good. Tem. 2. 348.

Art. Hort. Low. 2. 190.

Gouan's Hort. Belg. 244.

Wight's Nephrolepis, 171.

Wight's Cat. 181.

Rand's Essay, 68.

Alcove, Bot. Art. 2. 654.

Hist. Hort. Kew. 155.

Mylindr. 16, *fulvum flos fulvum varietate*, *Rand's Gloss.* 152.

Mylindr. 24, *foliis subulatis triquetris, acutis, pinnatis pinnatis oblongis pinnatis*, *Myl. Good. Det. ed.* 7.

Fraxinella glauca, caule terete acuto, foliis triquetris calycibus foliis, flos latus magnus, *Burch. Bot. Art. Hort. Lay. Bot. pars 2.* p. 190.

Glaucous leav'd flg. marggold.

Nat. of the Cape of Good Hope.

Cult.

Cult. 1894, Alt. K.

Flowers June and July.

I have no recent specimens of this plant in flower by me.

The following is a description of the best specimen I have of it.

Root, fibrous, strong, much branched.

PLANT, woody, strong, upright, shrubby.

BRANCHES, upright, woody, firm, arising alternately from the axilla of the leaves, and forming a handsome shrub.

LEAVES, glaucous, roughly punctate, especially on the leaf angle, large, when full grown expanded, ovate-triangular, much compressed, and somewhat sword shaped, bristly.

FLOWERS, very large, sulphur coloured, only produced by old plants, and by them sparingly.

PANICLES, terminal, long, silky, in my dried specimen.

CALYX,	} I have not examined.
COROLLA,	
FILAMENTS,	
STILAX,	
CAPITUL,	
SEEDS,	

* glau- *MACRANTHEMUM*, folio triquetris,
coides distinctis punctato-punctatis, carinis
(105) obtusis sub-glabris, pedunculis bracteatis.

Purple

Purple flowered glaucous fig-marygold.

Native of

Introduced

Flowers July to October.

A new species.

OBSERVATIONS.

This plant is extremely like glaucum, almost too much so to be separated from it; but I have been assured it is distinct from glaucum by those who have had better opportunities of comparing the two plants together than myself.

I HAVE no recent specimen in flower to describe it from.

It appears to differ from glaucum in some of the following particulars.

ROOT, fibrous, branched.

PLANT, a firm upright shrub.

BRANCHES, alternate, axillary, upright or expanding, upper ones in my specimen rather sigmoid or flexuose, and denser than those of glaucum.

LEAVES, extending distich, opposite, subpetiole, most of them nearly equilateral, or, nearly to be called compressed, marked every where with large pellucid imbrications, which are smoothish, the keel angle rather blunt

black and not rough; acutish at the point; whereas the leaves of glaucum are much compressed, marked with rough impunctations,* with the leaf angle very sharp, and rougher than any other part of the blunt pointed leaves.

FLOWERS, in my dried specimen two; terminating the branch, scarcely larger than those of glaucum, of a very rich purple colour, approaching when dried to red orange; whereas the flowers of glaucum are usually solitary, and always paler coloured.

PAGODEA, two, terminating the branch in my specimen, about an inch long, one of them furnished with two bracteal leaves, the other with only one.

BRACTEA, like the leaves of the branches but shorter, being only from a quarter to half an inch long, fixing on the peduncles scarcely higher up than the middle, and reaching to the base of the calyx.

WHEN the peduncles of glaucum are in my specimen solitary, much longer than those of glaucoides, with no regular unproductive bracteal leaves.

THE CALYX also differs in some respects, which my dried specimen will not allow me to make proper mention of.

REMARK.

R E M A R K.

In bloom the two plants speak for themselves 1—*glauca* having a pale yellow 2—*glaucoidea* a rich purple flower.

aurum *MINIARANTHEUM*, foliis cylindricotriquetris—punctatis dilutis, pilis utroque purpureis.

(146)

Ait. Hort. Kew. 2. 1750.

Curt's May 1861. *not correct*.

Wylde's Cat. 1812.

Boiss's Egey, 61.

Fraser's fine slender African felt large small for minute. Barb. Ind. Ait. 1. 1751?

Golden fig-marygold.

Introduced

Native of the Cape of Good Hope, *Ait. K.*

Flowers most part of the year.

O B S E R V A T I O N S.

ALTHOUGH this fine plant appears to have been cultivated and described by Miller as early as the year 1730, as the *Hort. Kew.* of Mr. *Rigas* informs us, no mention of it is made in the following books, all of which were published long after that period.

Spec. Plant. ed. 1764.

Syst. Veg. Lincol. Soc.

Syst. Nat. Gmel.

Wellss's Nurseryman.

Abstract.

Abiescomb. Bot. Arr.

Hill's Hort. Kew.

Nature do I find it in the 3^d ed. of *Miller's Gardener's Dictionary*, published in 1759.

Warren had it by the name of *M. ar-
rum*, in his catalogue, p. 162, and tells
us it was one of the sorts described by
Miller, &c., he does not mention it in
his *Nurseryman*, and in his catalogue
it is inserted with three others as an
appendix at the end of his list of *Me-
lanthematheae*.

D E S C R I P T I O N.

Root, fibrous, perennial, branched.

PLANT, shrubby, scarcely capable of
supporting itself upright when tall.

BRANCHES, liguous dark brown, slender,
long, and not crowded, young
ones somewhat compressed and green.

LEAVES, slightly glaucous, pinnate,
smooth, erect, expanding sub-triquet-
rous, or between sub-triquetrous and
terecylindric, with acute points, which
often assume a purplish tinge.

FLOWERS, large and specious, of a very
deep orange colour, opening very
early in the morning if the sun shines,
remaining open only a short time;
quickly folding if the sun disappears,

or

or it turned out of the gynoecium into the open air when fully expanded.

PEDICELS, terminal and axillary, round, thickening upwards, but sometimes not quite so thick close to the calyx as a little below it.

CALYX, large, five cleft, segments acute, nearly equal, more or less membranaceous and glandular.

PETALS, numerous and long, linear but broadish, acutish, deep orange on the inside, paler without, making a fine appearance when expanded.

FILAMENTS, deep yellow, just shorter than the calyx.

ANTHERS, deep yellow, pollen yellow.

GLAND, smooth, somewhat urn shaped above, and five angled.

STYLUS, five angled, or rather stylis one, deeply divided into five segments or stigmata, which are black purple coloured, expanding, fixed as it were to the stylis by an extremely short and slender thread, feeding out in the middle, and tapering obliquely towards the points, or rather gibbous and shaped, with a roughened surface.

CAPITUL, urn shaped, slightly navel'd, or hollowed at top, five angled, five cell'd.

SEEDS, rather few in the specimens before me.

SYSTEM.

arsum I have seen a variety of *arsum*, with a
pallidum paler, and of course, less handsome
 flower than the above;—when I first
 observed it, the plant was in the house,
 and I thought it casual, but I have
 since seen it equally pale in plants
 which have stood in the open air.

I have one thing to observe, by way of
 cautioning my readers against too ea-
 sily believing a paler flower than usual,
 a real variety; and it is—that atten-
 tion ought to be paid to the season of
 the year in which the plant blooms,
 and to the strength of each plant.

For a weak plant, in a darkish house,
 will often have a paler flower than it
 ought to have.

And a strong plant, if out of doors in the
 cold wet woods of September and
 October, will have much paler flowers
 than it had in June, July, and August,
 and this is remarkably observable, even
 in the strongest plants of *M. canadense*
 of these Observations.

M. arsum would perhaps have ranked
 better near *bicolorum*.

arabellatum *Meibomia arsum* foliis subulatis,
 [107] foliis prostratis, canalicatis, apice pe-
 tala, caule cunctis corymbis trichotomis.
Spec. Plant. 88p.

Engl. Flg. Lark. Soc. 1. 353.

Engl. Nat. Gard. Trans. 1. 844.

Bot. Hort. Kew. 2. 131.

Hill's Hort. Kew. 154.

Wight's Nanjygam. 1. 168.

Wight's Cat. 161.

Alcorneuk. Bot. det. 2. 630.

Swal's Key. 40.

Mysour. 43. *fruticosa foliis albis umbellatis*, *Rand's Chesh.* 122.

Mysour. 6. *foliis subrepentibus foliolaris ovatis ovatis repente subulatis*, *Mill. Gard. Dic.* ed. 7.

Fraxinifolia africana ovata serratis, foliis albis umbellatis, *Flora. parad.* 166. *Taf.* 166.

Fraxinifolia 13. fraxinifolia africana, africana ovata serratis, foliis albis umbellatis, *Bark.*

Ind. alt. Bot. Leg. Bot. part 1. p. 191.

Unbell'd Egg-marygold.

Native of the Cape of Good Hope.

Cult. 1787, *Ant. K.*

Flowers June to Sept. *Ait. K.*

OBSERVATIONS.

THE MEXICAN CACTACEAE umbellatum

I have never seen in full expanded bloom;—I have several times seen it before, and after flowering, but have no specimen of it in bloom proper for description.

T

TORRE

YOUNG plants of it rarely flower;—old ones every year.

ROOT, strong, woody above, and fibrous below.

PLANT, forming a regularly branched and handsome shrub, two or more feet high.

BRANCHES, woody, strong, expanding, arising opposite, and axillary from the bottom of the leaves.

LEAVES, connate, sub-triquetrous lobulate, rather glaucous, as if sheathing the branches slightly below their bases, and appearing smooth there;—in which respect, as well as in the colour and quantity of the flowers, umbellatum comes nearer my multiflorum, than either sarcom or spinosum;—and if I had thought of these circumstances sooner, I should have placed it near multiflorum.

FLOWERS, terminating the branches, white, forming a trichotomous corymb.

(*spinosum*) *Mastomysaureum* foliis tenui-triquetris punctatis distinctis, spinis remota.

Sp. Plow. 693.

Sp. Flg. Lich. Soc. 1. 383.

Sp. Nat. Gr. Tem. 2. 845.

At.

Alt. Hort. Kew. 2. 135.

Hill's Hort. Kew. 154.

Wight's Native-plant. 1. 170.

Wight's Cat. 162.

Roos's Exot. 61.

Roos. Bot. Bot. 2. 652.

Miscel. 42, *fruticosa, ramis trian-*
gulis, Roos's Class. 1336

Miscel. 10, *frut. ramis, Mill. Gard.*
Dic. ed. 7.

Frutic. 18, *Africana arbor longiss.* et
subtile ascendens et alia foliorum, Roos.

Ind. alt. Hort. Lug. Bat. pars 2. p. 290.

Frutic. africana arbor longiss. *Her-*
man's Parad. Bat. 3. 171.

Thorny fig-marygold.

Native of the Cape of Good Hope.

Cultiv. 1774. *Alt. K.*

Flowers June to September.

OBSERVATIONS.

Root, perennial, fibrous.

PLANT, upright, woody, forming a thorny
shrub, two or three feet high.

LEAVES, opposite, arising from the
axils of the leaves, expanding, or ra-
ther ascending, roundish-compressed,
woody, and firm, throwing out in va-
rious places branching spines.

STEMS, or thorns; at first sight appear-
ing as if terminal, but they soon cease

to be so, from the protrusion of young shoots from the axils of the leaves they arise from; branched, nearly horizontal, diversifurcating and dichotomous, each about half an inch or an inch long, foliulate, very acute, resembling the spines of the common white thorn, but not so strong or pungent, covered with a greyish coloured bark, and beset with a pair of distinct, opposite, chiefly barren leaves, like those of the branches, but only a third as large.

LEAVES, opposite, distinct, slightly glaucous; old ones, horizontally expanding, punctate; (punctures, petioloid and smooth,) sub-tripectrous, with all the angles blunt, slightly curled at the inner bases, fleshy, but very firm to the touch, and terminating in a very small white cartilaginous point, or horn-like handle.

FLOWERS, small and purple.

I have no recent specimen of the flowers.

THIS is truly a singular plant in its family, being the only one of all its numerous tribe, with thorny shoots.

margin- *MANGROSTANTHUS* foliis foliatis
 ram. congestis subulosis, calycibus spinosis
 [105] petalis emarginatis.

Spicer Hist. 622.

298.

Syl. Flor. Lib. Soc. 1. 383.

Syl. Nat. Goud. Tim. 2. 343.

Ab. Hort. Kew. 2. 185.

Hall's Hort. Kew. 154.

Wight's Hesperian, 1. 185.

Wight's Cat. 161.

Swet's Essay, 61.

Blanc. Bot. Afr. 2. 651.

Myrica. 28. *perperum folium foveolatum*
capense, Rand's Chief. p. 131.

Florula capensis, triangular folio acuta, flore
perperum, Penn. Gen. 2. 77. f. 3.

Florula apta fruticosa folio triangulari folio
acuta flore violacea, Swet. Bot. Afr. ab. Hort.
Ley. Bot. Port. 1. p. 292.

I believe Miller does not describe this
plant in the 7th ed. of his Dic. al-
though it appears to have been an old
inhabitant of Chelsea Physic Garden,
from Rand's synonym above.

Notched flowered Egg-marygold.

Native of the Cape of Good Hope.

Cult. 1734, Art. X.

Flowers June and July.

OBSERVATIONS.

Root, Stems, branched.

Plant, shrubby, upright, firm, two or
three feet high.

BRANCHES, woody, firm, ascending, al-
ternate.

Y 3

LEAVES,

LEAVES, when the plant is not drawn up by warmth, crowded, sub-terracussoni, with blunt angles, linear, opposite, distich, acute, covered with rough pilosid papule,—sometimes a quadrangular very rough leaf occurs, with almost spike papule.

FLOWERS, purplish, not large, but showy from their numbers, opening in the forenoon.

PEDUNCLES, terminating the strongest branches, in bunches, in my specimens; nearly or quite destitute of bracted leaves.

CALYX, five cleft, segments sub-equal, rather narrower than those of *fabrum*, those of the segments with membranaceous edges, of a paler colour than those of *fabrum*, (to which this plant is almost too nearly allied) the two remaining segments not membranaceous.

PETALS, of a deeper purple than those of *fabrum*, linear, numerous, often end-nicked, sometimes, although rarely, three dentated.

FILAMENTS, numerous, slender, somewhat converging, or upright.

ANTHERA, rather converging.

OVARY, five angled.

STYLUS,

SEEDS, five, reflexing, with roughish surface, which I cannot observe in section.

CARPALS, five cell'd.

SEEDS, numerous.

M. EMARGINATUM produces its flowers very freely, almost at all ages,—deciduous never flowers while young, and very sparingly when old,—I never saw it in bloom but once.

**emarginatus*
(110)

MINIPELTASTRUM, foliis, aggregatis ellipticis triquetris, lobulato-pinnatis, albidis, nervosis, cuneatis.

Shrubby white bark'd fig-marygold.

Native of

Introduced

Flowers August.

A new species.

OBSERVATIONS.

THE first time of my seeing this plant was at Mr. Lee's, I ask'd him if it was the *M. emarginatum*,—he assured me it was not; but did not tell me the name he had for it.—I obtained no specimen of it from him; it was just about opening its flowers, but I had no opportunity of examining them.

I have since seen this plant in another collection, sent thither from Mr. Lach, under the name of *Meibomiastrum norum*, from whence I had the small specimen before me, which is not two inches long, and therefore too insignificant to draw any good characters from;—from it however I wish to have it known, I have drawn the above specific character, which I do not offer as a fair, much less a good one; but merely as the best it is in my power to give. Nor do I know that the plant is sufficiently distinct from *emarginatum* to be established into a new species,—neither can I say in what principal particulars it differs from *emarginatum* and *dissectum*, (to which plants it seems nearest allied) except in its upright stem from the latter, and in its very white coloured leaves from both.

The method of its flowering appears the same as that of *emarginatum*.

The term *novum* was too vague to be continued; on which account I have called it *emarginoides*, from its very great resemblance to *emarginatum*, but far so doing I shall possibly be confuted.

Feburay

calvarum. MINIMISIMISIMUM, totius subulæ
(111) distinctis lobis undique mucronatis,
calycibus nullis.

Spex. Plant. 692.

Guad. & Hort. Mex. 144.

Syl. Voy. Lich. Ser. 1. 383.

Syl. Nat. Guad. Tim. 2. 843.

Art. Hort. Kew. 2. 183.

Hist. Hort. Kew. 154.

Wight's Nephrolepis, 1. 169.

Wight's Cat. 162.

Swal's Essay, 62.

Aberr. Bot. Ser. 2. 851.

Miscule, 19. *purpureum, calvarum, Ramulus*
colletis, *Band's Chiff.* 132.

Miscule, 19. *foliis subulæ foliis undique*
subulæ, *Mill. Gard. Enc. ed. 7^a* This
Guayana may possibly belong to emarginatum,
but I think it does not, and Miller refers
to Hort. Cliff. 119, which Lin. in Sp. Pl.
692, also refers to, as the subulæ.

Flowers after folio triangular, varieg. large,
apex, five lobes, each lob. obt. Hort.
Lap. Bot. Pers. 1. p. 292.

Rough leaved fig-marygold.

Native of the Cape of Good Hope.

Cultivated 1772. Art. K.

Flowers June to August.

OBSERVATIONS.

Root, fibrous, perennial.

PLANT, Herbsy, upright.

BRANCHES,

BRANCHES, crowded, opposite and alternate, length, cylindrical, covered with a dark coloured bark.

LEAVES, tripartite, foliaceous, more crowded, much younger, and covered, especially on the leaf angles, with rougher, more protruding and more chrysaline, verruculose or papilæ, than those of *marginatus*.

FLOWERS, much more rarely seen than those of *marginatus*, fewer, and rather paler.

PANICULÆ, on the only specimen I ever saw in bloom, and which is now in a recent state before me, three in number, and terminating the branch, smooth below, roughening upwards towards the calyx, with two fallacious bractæ about the middle.

CALYX, five cloth, segments equal, three of them edged with dark coloured membrane, the remaining two plain.

PETALS, pink purple, numerous, linear, with from one to five irregular crenatures, or minute teeth at the points.

FILAMENTS, buff colour'd, short.

ANTHERÆ, buff colour'd, large. Pollen pale.

GERMEN, in the specimen before me, six or seven angled, smooth.

STYLIS,

STEM, six or seven, herbaceous, buff coloured.

CAPITULA, six or seven call'd,

SEEDS, very small, ripe ones I have not seen.

definition (108) *MINIARASTRUM foliis triquetris acutis glaucis, punctis obsolete scaberrimis, lacinis calycinis interioribus membranaceis,*

Ait. Hort. Kew. 2. 187.

Syl. Nat. Good. tom. 2. 845.

Bending 6g-marygold.

Native of the Cape of Good Hope. Mr. F. Maffon, *Ait. Kew.*

Introd. 1774. *Ait. Kew.*

Flowers July to October.

OBSERVATIONS.

ROOT, Fibrous, branched.

PLANT, a small very low spreading or trailing shrub.

BRANCHES, crowded, opposite and alternate, arising from the axils of the leaves, at first ascending, but finally deflected or bent down towards the ground, in which particular the plant differs materially from *crangulatum*, to which in most other respects it is very closely allied.

LEAVES,

LEAVES, glaucous, opposite, distich, tri-
quetrous, subulate, of different lengths,
punctate, scarcely to be called smooth,
but nothing near so rough as those of
crucigeranum, not so white as those
of crucigeroides, which has erect
branches.

FLOWERS, like those of crucigeranum,
but paler, and produced in the same
manner, opening in a twining.

PANICULAR, long, compressed, smooth.

CAULIS, five cleft, or five leav'd, seg-
ments nearly equal, three of them with
murchisonaceous edges, the remaining
two plain.

PERALA, numerous, pale purple, very
narrow.

GERMIN, smooth, green, shining, five
angled, as if truncate at top, with a
hollow or areol.

FILAMENTS, numerous, converging into
a conoid or cylindrical figure in the
centre of the flower, buff coloured and
flender.

ANTHERA, ovalish, buff coloured.

STYLIS, five, four, subulate, long, ex-
ceeding, rough above.

CAPSELLA, five angled, five cleft'd.

SEEDS, very numerous.

reptans MISEMPETARHIZUM, foliis triquetris
{115} acutis subulis, caule reptante.

Dr.

At. Hort. Kew. 1. 113.

Genl. Syst. Nat. tom. 1. 145.

Creeping fig-marygold.

Native of the Cape of Good Hope. *At.*
Kew.

Introduced 1774. *At. Kew.*

Flowers June to August. *At. Kew.*

OBSERVATIONS.

I HAVE not seen this plant flower; in its triquetrous leaves and reptant stems, it is allied to *auriculæ* and *crassifolia*.

I HAVE seen plants in the open air, in the summer season, extend their branches above a foot and an half every way, fixed firmly down to the ground at every joint by strong fibres.

M. reptans has leaves between papulose and tuberculated, they are much rougher, more glaucous, and more strictly fibrillate or pointed, than any other reptant species I have at present in memory;—the root is perennial, fibrous,—the branches angular and finally sub-lignous.

subula *MUSCIVORANTIVUM*, foliis subtri-
(114) quetris, punctulatis, cuneatis, stem-
bulosis, caule tereti reptante, pedun-
culis obtuse acutis, solitariis.

At.

Ait. Hort. Kew. 2. 187.

Eyl. Nat. Genl. tem. 2. 845.

Wight's Cat. 162, where it is said to be described by Miller.

New Zealand fig-marygold.

Native of New Zealand. See Joseph Banks Hort. Ait. Kew.

Introduced 1771. Ait. Kew.

Flowers July and August. Ait. Kew.

OBSERVATIONS.

I HAVE NOT seen this plant flower, and have no specimens of it proper for description.

- caulis-*
trum
[115] *MAUNOATANTANUM*, foliis lanceolatis
dris imbricatis cuneatis apice tri-
quetris, cuneis repente, lanceolatis.
Lin. Spec. Plant. 693.
Green's Hort. Mex. 244.
Eyl. Fig. Litch. Ser. 1. 384.
Eyl. Nat. Genl. tem. 2. 845.
Ait. Hort. Kew. 2. 188.
Mil's Hort. Kew. 154.
Wight's Nurfryman, 1. 170.
Wight's Cat. 161.
Alcock's Bot. Afr. 2. 653.
Swal's Egypt, 64.
Ménière. 34, *crochiformis* repens flos per-
pura, *Rend's Class.* 133.

Ménière.

Melastom. 24. *caule repente paniculatum,*
foliis paniculatis, bracteis cuneatis, apice
repentibus. Mill. Gard. Dict. ed. 7.
 where he gives the following Synonym.

Flouider africana repens, foliis triangulari-
bus serratis perperis, Rind. Desc. p. 18.
 Tab. 38.

Thick leav'd fig-marygold.

Native of the Cape of Good Hope.

Calculated 1734. Ait. Kew.

Flowers July and August.

OBSERVATIONS.

THE leaves of this plant, which are far from either succulent or thick, when compared with the grasshalk of many other plants of this tribe, are generally more of a triquetrous than a lensicoidric appearance.

FLOWERS, I have no specimens of, they are bright purple, terminate the leafy branches, and are seldom seen but on old plants.

M. crassifolium is a handsome plant, thickly furnished with leaves, and makes a fine appearance on a shelf, from which I have seen the branches of a plant, even in a sixty lined pot, hang a full yard.

Ten branches of *M. crassifolium* are naturally prostrate and rampant, they are thickly

thickly furnish'd with knots on every part, angular and slender, — herbaceous when young, — when old they become more tough or supple, and acquire somewhat of a ligneous nature, — when in contact with the earth, they send down many white fibres into it from every joint.

The root of *M. craticulosum* is perennal and fibrous.

decumbens
(115) *MUSCIMERTASTRUM*, foliis sub-naciformibus levibus, glaucis, compressis-tripectatis incurvis, basi semi-cylindricis attenuatis, angulis obtusis, caule decumbente.

Wight's Cat. v. 2. where it is said to be described by Miller.

Decumbent fig-marigold.

Native of

Introduced

Flowers June to August.

• OBSERVATIONS.

I AM not sure whether the following synonym belongs to this plant or not, but I am tempted to think it does.

Myrsine, n. 6. *foliis subnatisformibus ovatis levibus, caule decumbente*, Mill. Gard. Diet. ed. 7. It appears to belong to *Myrsine*, and yet Miller's reference to the following

following synonym makes it at least doubtful.

Phaleria, seu Pteris alaudalis, affinis, major, procumbens, triangulari folio, caespitosa.
Burm. Ind. orb. v. 239, for this last synonym really does belong to the M. arborescens, notwithstanding what Miller may be supposed to have supposed to the contrary.

If we but for a moment admit Miller to have misapplied the synonym of Boerhaave, the matter will just amount to this:

BOERHAAVE's plant will be the same as *sciencifolium* Lin. and

MILLER's plant, the same as my *decumbens*.

After all, No. 47 of *MIL. Dic. ed. 7*, may be *decumbens*, and the above synonym of Miller belong to *sciencifolium*.

See my further considerations and remarks on this head, under the synonym of *M. sciencifolium*.

DESCRIPTION.

Root, fibrous, fibres long, diverging, branched.

Plant, a small fern, with numerous, somewhat decumbent branches.

BRACCEAE, firm, woody, cylindrical, rather irregular, arising alternately and opposite from the axils of the leaves, expanding, finally shooting along in an almost horizontal or decumbent manner, often acquiring, in their early stage, a purplish tinge, and thickly covered with leaves.

LEAVES, opposite, rather crowded, distinct, very glaucous, punctate, (spots pellucid, smooth, small,)—somewhat serrate, and obliquely bending back; some of them quite filicate, especially the old ones; most of them sub-acinaciform, or compressedly tripeterson. At the base, attenuate and hemicylindric,—all the angles blunt, the basal one, gibbous, or hunched out from the middle to near the point, where it is suddenly contracted again, and terminates the leaf in a very fine, just perceptible, white, sometimes purple bristly point, which is inclined a little to one side, following the direction of the leaf;—the leaves are of different lengths, usually from three quarters of an inch, to an inch and a quarter long; often much more in young plants; some of them, in a specimen before me, measuring above two inches.

FLOWERS, bright purple, showy.

FRUIT, small,

BRANCHES, long, often with a pair of bracted leaves near the middle, which some may call barren branch leaves; for they are exactly like those of the branches, but are less, and wither away without producing any shoots from their axils.

PETALS, numerous, linear.

GERM, five angled.

SEEDS, five, appearing as if united below, and diverging above.

CARPALS, top shaped, scarcely five celled, five angled, back of the angles grooved.

SEAMS, numerous.

ADDITIONAL OBSERVATIONS.

I HAVE called this plant decumbent, for three reasons; the first and best is, because it is in many stages of growth a decumbent plant. The second is, because Weston in his Cat. 164, says it is described by Miller under the name of decumbens, which I have not yet found. The third is, the plant is known in several Nurseries about town by the name of decumbens.

In several Yorkshire Nurseries and Gardens, this plant is called by the vague name of *filix-hermaphroditi*, a common hackneyed name for almost any in-

cured leaf'd *MELIBRYANTHEMUM*.
Even near London, I have heard it
applied to several, especially the pro-
fret one, *M. glomeratum*, and my
M. cymbiforme.

In the last catalogue but one, of Messrs.
Gordon, Dorrer, and Co. Nursery-
men, mention is made of a *Melibo-
ryanthemum* under the name of
" *Melibooryanthemum decumbens*,
" prostrate fig-marygold," which, in
all probability, is the same as this
plant.—In their last catalogue, which
appears to have been compiled after
the model of Mr. Aiton's *Hortus Kew-
ensis*, the name of *Melibooryanthemum*
decumbens does not occur.

glomeratum *MELIBRYANTHEMUM foliis tripartitis*
 In compositis parvis, caule particu-
(117) lato multifloro.

Lia. Spec. Plant. 644, who only gives our
Lyonsii, viz.

Melibo. *fulvum minus, flos carnosus mi-
nor*, *Diff. Eich.* 281, f. 213, f. 274.

The following *Lyonsii* belong to it.

Melibo. *glomeratum*, *Sp. Fig. Lich. Soc.*
t. 384.

Melibo. *glomeratum*, *Sp. Nat. Gard.*
Tom. 2. 845.

Melibo. *glomeratum*, *Art. Kew.* 2. 187.

Melibo.

Meliphe. glomerata, Hill's Hort. Kew.
154.

Meliphe. glomerata, Wilson's Maryland,
1. 179.

Meliphe. glomerata, Wilson's Cat. 162.

Meliphe. glomerata, Swt's Essays, 41.

Meliphe. glomerata, Amer. Bot. Soc. 2.
653.

Meliphe. salicaria when, *Scop. caryo* ni-
ser, Rost's Chiff. 134.

OBSERVATIONS.

THE charming little plant is not known so much as it ought to be;—its very numerous and very beautiful flowers, (which are produced with the greatest certainty every season, so as to cover the plant with a bright purple bloom,) added to the uncommon facility which attends its propagation, even from the smallest cuttings, much merit the admiration of the curious in plants.

It is a very variable little plant, (but not in the least liable to be taken for any other species,) affording appearances exceedingly different, according to the treatment it meets with, and according to its different stages of growth, and passes a large portion of fresh air.

I have heard a Marylander, whom I have had occasion to mention more than

once in the course of these Observations, and who appears to place himself not a little upon his knowledge of *MEMORANTHUM*, (especially the *LEUCUM* species,) not only call this plant the *M. foliosum* of Linnaeus, but after having been told to the contrary, insist upon its being so;—nay, unopen to conviction, even after my offering to explain the matter to him by a reference to the very figures cited by our much loved Master Linnaeus, he has told me, that he is not to be caught by so young a Botanist as myself, the knowledge of a set of plants he has been accustomed to consider himself familiar with from his youth.

THE plants are distinguished with the greatest facility; *glomeratum* is full twice, almost three, the size of *foliosum*—other differences out of the question. A child in Botany may see, and seeing, know the difference between them; nay, *glomeratum* is as much, or perhaps more like decumbens, than *foliosum*, but in every respect much denser, greener, and more upright.

DESCRIPTION OF GLOMERATUM.

Root, perennial, fibrous; stems large, in proportion to the size of the plant, and but moderately branched.

PLANT,

PLANT, a shrill, very bushy, rather glaucous shrub, six inches, or a foot, or more high.

BRANCHES, erectish, often diffuse, and paniculate; round, whitish young, slightly angular, when old, covered with a brown bark, and for the most part opposite and crowded.

LEAVES, opposite, crowded, distinct, rather glaucous, pinnate, (spots pellucid, round, oval, oblong and usually distinct, but sometimes confluent,) subtriangular, compressed, with blunt angles, subulate, attenuate at the base, slightly incurved, sometimes almost acriciform; from three-quarters of an inch to an inch and an half long.

FLOWERS, very numerous, purple, like those of *M. deltoidea*, but finer, and more handsome; expanding in the fore part of the day, in such profusion, as often to cover the surface of the plant;—making a fine appearance, particularly when contrasted with the beautiful yellow, white, and golden coloured blossoms of their kindred.

PERSISTENT, length, thickened upwards, each supporting one flower, forming a kind of staminate pedicel, which, after flowering, does not perish, but protrudes from the hollow of its pro-

like leaves, healthy radiments of numerous branches, — the pericardial source of the fungus plant.

CALYX, quinquefid, segments sub-equal, or sometimes two of them less than the other three, and membranaceous all round, with sharp foliaceous points beneath the membrane.

PETALS, reddish-purple, linear, and numerous.

The other parts of fructification I have not examined.

foliatum (118) *MISSOURI BOTANICAL GARDEN* (118) *folia sub-ovata, serratis incurvis, punctatis distinctis, nervis rectis,*

Lib. Spec. Plant. 834, who only gives the one following synonym, viz.

Myrsine foliatum, minimum, flor. purpureo-purca, Dall. Eich. 118, t. 213, f. 276.

Fraxinifolia folia triangulari, ciliatis serratis floribus albis purpureis filamentis,

Sted. Juv. p. 9, t. 42.

The following synonym being in *foliatum*.

Myrsine foliatum, At. Hort. Kew. 118.

Myrsine foliatum, Willd. Hort. Kew. 154.

Myrsine foliatum, Willd.'s Nomencl., t. 172.

Myrsine foliatum, Willd.'s Cat. 161.

Myrsine foliatum, Steud. Syn., 61.

Myrsine.

Melanth. foliatum, *Aberr. Bot. Ber.* 1. 653.

*Melanth. foliatum minimum flore parvo
parvo*, *Rand's Claff.* 134.

*Melanth. 25. filis acutiformibus distincte
acutis raris brevibus*, *Mss. Gard. Dub.*
ed. 7.

*Fendler 19. apud filis triangulari brevibus,
flore filis purpureis*, *Domestica. Berch.*
Ind. ab. Hort. Lug. Bat. pars. 1. pag. 190.

OBSERVATIONS.

MR. ARROW in his *Hortus Kewensis* has well remarked that the trivial name of *Melanthryanthemum foliatum*, is prefixed to the specific characters of *Melanthryanthemum acutiforme* in *Syst. Veget.* 469.

AND THIS mistake, by some very knave and unaccountable oversight, is copied verbatim, both in the *Systema Vegetabilium*, as translated by the Litchfield Society, and in the last edition of the *Systema Naturæ* lately published by Professor Griseb.

CONSEQUENTLY the *Melanthryanthemum foliatum* of both those works is the *Melanthryanthemum acutiforme* of LINNÆUS, and the *Melanthryanthemum foliatum* of LINNÆUS (*acutiforme* as now is ascribed in both those authors.)

anthers,) is not described by either of them.

Small sickle leav'd fig-marygold.

Native of the Cape of Good Hope.

Cult. 1787. Alt. K.

Flowers June to September.

DESCRIPTION.

Root, fibrous, small, and branched.

Plant, a very low, very bulky, divaricating, and almost decumbent shrub, rarely more than six or eight inches high.

Branches, opposite, slightly angular, arising from the axilla of the leaves, divaricating and densely crowded, often bending down from the side of a pet, and sometimes extended a foot in length when in that direction.

Leaves, very minute and much crowded, opposite, distinct, glaucous, fleshy, punctate, (perdrans fronsch, polharid,) attenuate at the base, very gibbous on the back, sharply incurved & salcate, near a quarter of an inch long, and ending in an acute white, just perceptible bristly point, which observes the direction of the leaves.

Flowers, purple, large for the size of the plant, opening in the morning.

Frustrum,

PANICULAE, each supporting one flower, terminating the branches, short.

CALYX, five cloth, segments nearly equal, two of them foliaceous, acutely pointed and plain; the remaining three with membranaceous edges and acute points.

PETALS, purple, linear, mucronate, and end-nicked.

FILAMENTS, mucronate, slender, of a dilute purple colour; convergent.

ANTHERA, yellow.

STYLUS, five, yellowish-green, filulate, long, for the size of the flower.

GERM,	} I have not examined.
CAPITUL,	
SEEDS.	

PECULIARITIES.

THE knees are sometimes sufficiently incurved to form one half of a circle, which is a much greater degree of curvature than any other *Melampyrum* I am acquainted with, is found to possess, and they are less than those of any other *Melampyrum* I have seen, except perhaps those of *M. ciliatum*.

ciliatum **MELAMPYRUM**, foliis oppositis
(119) cuneatis, serratis, stipulis membranaceis villosis, laciniis, ciliatis.
Dr.

Ait. Bot. Kew. n. 179.

Syl. Nat. Genl. num. n. 843.

Ciliated fig-marigold.

Native of the Cape of Good Hope. *Ait. Kew.*

Introduced 1774. *Ait. Kew.*

Flowers

OBSERVATIONS.

THIS is a charming little shrub, with very small green triquetrous leaves.

THE CILIA, are not always observable.

It appears nearer allied to *falcatum*, and perhaps *deltoides*, than any of the other species.

I HAVE not seen it flower.

It has a perennial fibrous root, and slender, but firm, nearly upright, straight branches, which are thickly adorned, with green punctate, very short, somewhat chubby leaves.

deltoides *MAURANDIANTHEUM*, foliis deltoideis triquetris, dorso et lateribus mucronatis, impunctatis distinctis.

Myrsin. deltoidei, Sp. Pl. 690.

Myrsin. deltoidei, Syl. Pag. Lich. Ser. 1. 383.

Myrsin. deltoidei, Syl. Nat. Genl. num. n. 844.

Myrsin.

Myrsine, deltoidea, 2. *Alt. Hort. Kew.* 2.
183.

Myrsine, deltoidea, *Hill's Hort. Kew.* 154.

Myrsine, deltoidea 1. *foliis oppositis alternis,*
et dorso et latribus mucronatis, Wight's
Nightingale, 2. 169.

Myrsine, deltoidea 3. *pinna*, *Wight's Cat.*
161. which answers to 2. or *deltoidea* of
Lin.

Myrsine, deltoidea, *Roos's Essay*, 60.

Myrsine, deltoidea minor *Alber. Bert. Ar.*
2. 651.—making it the top of the three
delta here'd *facta*; whereas it ought to have
been the first or *deltoidea* *Lin.*

Myrsine, deltoidea, *Comar's Hort. Mass.*
244.

Myrsinobryanthemon 23. *deltoidea et dorso, et*
latribus mucronatis minor, *Roos's Chiff.*
132.

Myrsinobryanthemon, caulescens, foliis del-
toideis oppositis druceis, *Mill. Gard.*
Diet. ed. 7.

Persea 21. *semifera deltoidea effusum foliis*
triangulatis crassis, densa, glauca ad tres
magis acutata, *Borch. Ind. Alt. Hort.*
Lag. Bot. Pers. 1. p. 250?

Small *delta* here'd fig-marygold.

Native of the Cape of Good Hope.

Cult. 1714. *Alt. Kew.*

Flowers May to August.

OBSERVATIONS.

I HAVE no recent specimen of this plant
in flower for description.

deltoidea THUNB. is a variety of it, larger in all its
parts, which I believe I have not seen,
at least not in flower.

The following synonyms belong to it.

Myrsine deltoidea R. & P. Pl. 692.

Myrsine deltoidea p. *Art. Hort. Kew.* 2.
182.

Myrsine deltoidea 2. *major*, *desj. et latrobei*
maritima major, *Wight's Marjoryman*, 1.
183.

Myrsine deltoidea 2. *major*, *Wight's Cat.* 160.

Myrsine deltoidea major, *Thunb. Bot. Ber.*
1. 651.

Myrsine 2. *deltoidea*, *et desj. et latrobei*
maritima major, *Rand's Clus.*

Great delta leaved fig-marygold.

Native of the Cape of Good Hope.

Cultivated

Flowers

OBSERVATIONS.

I HAVE no certain specimen of this plant.

Dillenia, and (in this instance,) his
follower Rand appear to have looked
upon it as a distinct species, which it
possibly may be.

MILLER

MILLER does not appear to have noticed it, at least not in the 7th ed. of his Dict. which is the only ed. I have by me at present.

THE next mentioned plant which LINNÆUS alluded to as a new variety of his *deltoidea*, (making it var. γ .) I know to be a distinct species, for I have raised some forest of it from seeds, produced by plants, which grew in close contact with LINNÆUS *deltoidea*, all of which prov'd the same as their parents in every respect, so far as concerns their leaves and shoots;—their flowers I have not seen.

caulescens MICHMANTHEMUM, foliis ellipticis
(111) deltoidibus brevibus minime dentatis,
angulo cordatis triangulis.

Michx. *deltoidea* γ . *Spec. Pl.* 690.

Michx. *deltoidea* γ . *Atl. Bot. Eur.* 1.
113.

Michx. *deltoidea* γ , non *depressa* sed *interius*
mutuata, *Wight's Neweyman*, 1. 169.

Michx. *deltoidea*, no. 1. *Wight's Cat.* 361,
whereas it ought to have been γ or γ . *Lin.*

Michx. *deltoidea*, *Therac. Afr.* 2. 651.
making it the first of the three *deltoidea* forest
plants, whereas it ought to have been the last
or γ . *Lin.*—See my reason for under *deltoidea*
as this subject.

TERR

There have also very good examples
Wegler and *Abertville*, one in his Cat.
 184, the other in his str. n. 651, made
 the mistake γ , such is the place that
 ought to have been accepted by the mistake
 α and vice versa, which completely confuses
 their *M. dentata*, to be my confusion,
 and my confusion to be the same as their
 mistake, which would have been avoided
 if they had properly followed the text of
Linnæus, as Mr. Allen in his *Hort. Kew.*
 has rightly done.—A woman's confusion,
 (if the thing is worth so much trouble)
 will explain this business; which, although
 extremely trifling, I have had a pleasure in
 attempting to elucidate.

In *Wegler's* *Nurseryman's* brochure, the plants
 are rightly ranked; by which means the
 confusion is avoided, as it is, their cha-
 racters are well translated into English.

Majandra. 24. *dentata*, non *dentata*, sed *hirsuta*
variegata, *Rand's* *Chesh.* 132.

Majandra. 12. *confusa*, *falsa dentatissima*,
hirsuta, *achieve dentata*, *Mich. Gard.*
Dell. ed. 7.

Ficus *afra*, *falsis triangulari-plana*, *hirsuta*
confusa, *margine non pinnatifida*,
Benth. Ind. arb. Hort. Lug. Bot. Port.
 1. p. 290.

Smooth bark'd *delta* bark'd fig-trarygold.
 Native of the Cape of Good Hope.

Cul-

Cultivated

Flowers May—July.

OBSERVATIONS.

I HAVE no recent specimen of this plant in flower for description.

THE plant is taller, more upright, more spreading, and every way larger, than either the *deltoidea* or *deltoides* # Lin.

THE leaves are large, whiter, longer in proportion, perfectly smooth or entire on the back, or least angle, and scarcely to be called even slightly denticulate, on the edges;—they are rather subundulato-denticulate.

THE flowers are larger, of a pale rosy-purple colour, numerous, and open in a morning as soon as the sun shines strong upon them, agreeably scented, and smell like rose blown May, which is well known to be the common name for the White Thorn Tree, or Hawthorn, which is the *Cougar monogyne* With. Bot. Arr. 2. 311,—almost admired by all.

PECULIARITY.

I do not recollect any other *Stelentheranthemum* with odoriferous flowers.

A a

ADDI-

ADDITIONAL OBSERVATIONS.

I have selected the term *caulescent* for this plant, on two accounts: first, because it is pretty applicable to the plant, (which acquires more of a firm than either *dichoides* or *deltoides* L.) and secondly, because it is the name I have seen the plant stand by, in some edition of the *Abridgement of the Gardener's Dictionary*.

MILTON'S names and ideas on botanical subjects, I have already professed to hold in respect, and I cannot help remembering, that LINNÆUS should have respected them so much, as he is well known to have done in various instances, not only in this genus, but in others;—in few, more unmercifully than in *Aloe*;—in few, with so little success.

As a friend to the science of Botany, and as a lover of its cause, I cannot help exclaiming, what a pity it is, that the most permanent and striking Linnæan varieties of plants are not yet suffered to rest as things specifically different. And I wish in imitation of Mr. Curtis, (in several parts of his elegant works) that the leading varieties were referred to the specific names and descriptions, equalled

constructed for them by Miller and others, and again failed to rank and associate under their respective genera, as plants specifically different.

A representation is solitary, I am convinced, would not only be consistent with nature, but be productive of perspicuity and good to the science of Botany.

For as several things stand now, suppose a young student in Botany to meet with some leading variety of a plant, to which he is a stranger, and likewise suppose he attempts to make it out in the works of Linnæus, what circumstance is more likely to occur to him, than the mistaking this strong variety for some established species it really does not belong to? Which species therefore he fancies himself acquainted with;—what an unfortunate error!—How harmful it may prove to all future advancement in the science he cultivates!—For, a little while after, supposing him to meet with the real species he mistakenly believed himself possessed of,—he examines it, finds it different from the former, and in all probability, chooses it another of a different kind.

In this way his errors increase; they redouble upon him; and at length involve him in a mass too intricate for his powers to extricate him from. In which situation, he applies to a friend of greater botanical knowledge than himself, who kindly points out his mistakes, and the compound nature of the circumstances, which occasioned his perplexity; disheartened at which, he soon magnify the difficulties before him, and embarrassed, he gives up his botanical pursuits with disgust.

Assured I cannot help lamenting what a pity it is, nay, what a loss to the science of Botany, that circumstances so apparently trifling, should, in any degree, retard the increase of votaries for botanic fame.

And I have known errors no greater than the variation of plants in their leaves, from smooth to hairy, from dentate to entire, &c. perfectly sufficient to give birth to, or occasion the above-mentioned inconveniences, where each principal variation was not described as plants specifically distinct.

Examples of this nature fall daily under the eyes of practical Botanists: it is unnecessary to point any out to them—but what is a young student in Bo-

tany,

tury, (in his noviciate perhaps,) to think, when he examines such incongruous descriptions, as any plant, (no matter what) *foliis lucidis*, and another placed under it as a variety, *foliis opacis*?—or any plant, *foliis dentatis*, and under it another as a variety, *foliis integerrimis*?—and many other oppositions of a similar nature?

No one is by any means for having the lesser and trifling varieties of plants, particularly those of size and taste, elevated to the rank and dignity of species, (as was the fashion in the latter end of the last and beginning of the present century,) that indeed would be an attempt to replace the rabble in the Augustan drama, which nothing short of the Herculean labours of another Linnaeus could effectually remove!

No; it is only to be wished in imitation of Miller, Curtis, and several very eminent foreign Botanists, that the prominent or principal Linnaean varieties, were referred to their specific names and descriptions, and again suffered to rank and associate under their respective genera, as plants specifically different, especially those which relate to the structure and shape of the leaves,

stipule, bractlet, and parts of fructification; and which bear unchanged, the almost infallible test of being raised from seed.

But slight accidental variations in most ever be remembered, all plants, even the most distinct, may at times be liable to, when raised from seed. In such cases, the judgment of the experienced Botanist only, is capable of deciding.

And on such points, who has had such great opportunities and experience as Miller?

And who has taken so much pains to explain them?

In whose judgment therefore ought we better or more fully to confide?

A REGULATION so salutary, under proper bounds and restrictions, I am persuaded, will sooner or later take place, and indeed, has already made some propitious beginnings under several able hands.

It is chiefly from practical Botanists, that we must expect its progress and continuance, which I am firmly persuaded, will finally render obsolete and unnecessary the inaccuracies to the student, which I have above particularly pointed

pointed out; and make the study of Botany far easier than it now is.

Indeed I speak from actual experience, and have only encountered the identical circumstances, which repeatedly proved, inextricable and puzzling to myself, when I first endeavoured to acquire botanical information.

In **YOUR OBSERVATIONS**, however inadequate to the task, I have endeavoured to reduce, what are considered as the principal varieties of **Stichanthus**, to the specific ranks and descriptions allotted them by DeCandolle and Miller.

DECANOLLE surely was a judge, and a man of practice;—did not the great **LINNEUS** himself lay of his **Horten Eichenfels**, in which the very **MONOTACTIS** I speak of, are described and figured?

"**Est species botanica quo auctor
" vixit nescio nec vidi.**"

Phil. Prog. Bot. 2. 171.

I am aware, that against me it may be urged, with an appearance of reason, that such varieties as are worthy the attention of a Botanist, either are already, or may be described under the species they belong, as well and as ef-

A * 4

fectually,

festually, as if they were described as distinct species.

But what better are such descriptions, than the long names (as they may be called,) or specific character of all the authors, who preceded the present, THE IMPROVABLE INVENTION OF TRIVIAL NAMES, as their truly great author thought proper to call them? How improper for the purposes of conversation on botanical topics!

In answer to this, I am likewise aware it will be said, that in addition to their descriptions, short, sub-trivial names, either are often, or may often be applied,—as in the numerous and strong varieties of *Aloe perfoliata* Lin. and *Medicago polymorpha* Lin.

But do not these sub-specific names, if they may so be called, perplex by their number? Do they not also sometimes include less varieties? And are they not thereby rendered almost as long and inconvenient for the purposes of conversation, or rather verbal communication, as the specific descriptions of the old authors? Such, for instance, as those in the index after of the great Boissier, so often referred to in these observations, which run by a score in succession, “ *Flavida, alba, fœvifera*
“ *arvensis,*

"*aloides*, &c." and which are therefore too long to be either pleasant, or very convenient for a fiftieth of Botanical conversation.

But whether am I hurried?—what an impolitic digestion! what degree of criticism, am I not usefully exciting to action?

mutabile *Mammillaria mutabile* foliis triquetris
(var.) compressis sub-scleriformibus, distinctis, punctatis, angulis integris cartilagineo-marginatis.

Pale purple fig-marygold.

Changeable fissides.

Native

Introduced

Flowers July to September.

A new species.

OBSERVATIONS.

I BELIEVE this is a new species, unless it should be conjectured the same sort, in Boerh. Ind. Afr. 2, 290.

I HAVE heard it called *mutabile*, at Mr. Lee's, and in other places, on which account, I continue that term, in preference to the more obvious title *marginatum*, which otherwise I should have applied to it.

D E.

DESCRIPTION.

Root, fibrous, branched, perennal.

PLANT, a small dense upright branched shrub.

BRANCHES, thickly covered with shoots and leaves, the former arising opposite or alternate from the axils of the latter, ascending, or patent, whilst young herbaceous and angularly anapituous; deriving sharp angles from the knots of the leaves, tender and woody when old.

LEAVES, opposite, ascending, not an inch long, greenish, covered with roughish pellucid punctures, sub-acinaciform, or, compressed triangular, attenuate at the base, and gibbous on the back angle upwards, terminating in a small acute bent bristly point, crowding each other, and every way edged with a thin firm, white, cartilaginous margin, which is nearly smooth, and leaves composed of a congeries of confluent semipellucid impunctations.

FLOWERS, pale, dilate purple, large, but by no means showy, terminating the branches.

PERICARPS, short, solitary, mostly clothed with imbricated bristled leaves, but sometimes only furnished with one pair

pair of leaves, which exactly resemble the leaves of the branches, but are rather less.

CALYX, five parted, segments nearly equal, first, three of them with membranaceous edges, the remaining two nearly destitute of membranous.

PETALS, numerous, extremely narrow, or almost capillary, outer ones whitish below, pale dilute purple above; inner ones quite white, with purple tips, some of them almost as narrow as the filaments.

FILAMENTS, numerous, capillary, uncommonly slender, and converging.

ANTHERA, very small, buff coloured, pollen yellowish.

GERMEN, large, five angled, with a hollow or navel at top.

STYLES, five, small and extremely short, greenish-yellow and expanded.

CAPITUL, very large and fleshy, depressed, with a large hollow or navel at top, five cell'd, obviously five angled, angles with grooved lines along the sides.

SEEDS, rather few in number, but of a very large size for a *Melastomaceum*, and lodged in five cells.

R E M A R K.

I HAVE heard this plant called by the stupid name of *dalabrifera* in some of the Yorkham nursery.

Brassica- *MAXIMILIANSTHEMUM*, foliis equisetatis
sum *triangulis acutis sub-punctatis, sub-con-*
 (135) *catis, angulis lobatis, nervis hexagonis.*

Lin. Sp. Pl. 634.

Eyl. Fig. Lich. Soc. 1. 384.

Eyl. Nat. Genl. tom. 2. 545.

Art. Hort. Kew. 2. 119.

Hort. Hort. Kew. 135.

Wight's Norfolkmen, 1. 170.

Wight's Cat. 161.

Reich. Kgl. 61.

Arct. Ar. 2. 633.

Reich. 43, foliis, nervis, nervis, nervis,
mediis, Reich. Cat. 133.

Thready fig-uncygold.

Native of the Cape of Good Hope.

Cultiv. 1712. *Alt. Kew.*

Flowers July to September.

O B S E R V A T I O N S.

Root, Green, perennial.

PLANT, trailing upon the ground, diffuse.

BRASSETS, scarcely to be called six
 angled, being chiefly hexacylindric or
 triangular, often purplish and crowd-
 ed.

LEAVES,

LEAVES, equilaterally triangular, an inch and an half long, angles edged with a just perceptible cartilaginous margin, which is rough to the touch, and finely serrulate when nearly viewed, and on the keel angle largest and coarset.

FLOWERS, terminating the lesser branches, solitary, not small, but rather to be called large, purple, pretty, but not showy; I have no recent ones for description.

LEUCIS MICHMANTHINUM, foliis subulatis
(=24) *oblongis punctatis distinctis, angulo
acutis, retroflectis serratis fere acicu-
loformibus.*

Lin. Sp. Pl. 696. note refers to the
three following words, viz.

Hort. Cliff. 218. No. 13, and

Reyne. Lugd. Bat. 214, and

Michx. javanicum fere aciculiformi *Acro.*

Dill. Edib. 249-5. 152, f. 238.

The following fragments also belong to it.

Lep. Fig. Lich. Soc. 1. 384.

Lep. Nat. Genl. Tum. 2. 246.

Wight's Newjerman, 2. 171.

Wight's Cat. 188.

Abercromb. Bot. Arr. 2. 454.

Tellow cap. f. ovary gold, with a light oval'd

leaf. Pot. Gen. p. 8. num. 78. f. 4.

Michx.

*Melampy. 19. serratum, flos unilobellatus
luteo, Raul's Chiff. 172.*

*Melampy. 19. folis subulatis tripartitis, an-
gule cordatis, retroflexis serratis, Mill.
Gard. Dist. ed. 7. Miller only gives
one synonym, not in Hort. Chiff. 221,—
the other is*

*Flacida africana, folis longis, triangulari-
bus, cuneatis, cuneis purpureis. Tourn. dit. Par.
1705, which possibly may belong to my
laccum, which is the next plant described
in these Observations, and has a purple
flower, and often a purple stem.*

*The following synonym forms the same as this
of Tournesier, and may belong to serratum,
or, possibly my laccum, but as Miller gives
the synonym of Tournesier under serratum,
I choose to give the following, which
appears the same.*

*Flacida afra, folis, triangulari, longis, pecu-
liatis cuneatis rubris.—Burm. Ind. Afr.
Hort. Lug. Bat. Parr. 1. p. 290.*

Yellow Semite Egg-marygold.

Native of the Cape of Good Hope.

*Introduced before 1706, when it was
cultivated by Mr. Gardener of the
Temple Garden. Pet. Gaz. Tab. 78.
N^o. 1.*

Flowers June.

OBSERVATIONS.

THIS plant I have never been fortunate enough to behold, it appears to come pretty near dry lacustris, from which however it differs in having a yellow flower, and possibly in many other particulars.

It is enumerated in the two accounts of Chinese plants which I refer to, viz. Mill. Dids. and Rand's Chins. but it does not appear to have been at Kew, at least neither Dr. Hill nor Mr. Aiton make any mention of it in their catalogues of Kew Garden.

It appears to have been cultivated at Eltham, by the above reference to the Hort. Elth. and I think I have seen it enumerated in a recent catalogue of plants in the garden of ——— Blackburn, esq. at Oxford.

Also Petiver mentions having received it in flower in June 1706, from Mr. Gleditsier of the Temple Garden, vide Peta. Gra. p. 8. tom. 78. l. 1.

However common it may have been in the English gardens formerly, it is now become a very rare plant.

Succrari MARMERANTHEMUM, foliis crassis,
(125) oblongo pinnatis glaucis, compressi-
tripartitis acuminatis, angulo ciliatis,
laevibus, petalis purpureis.

Purple

Purple flame fig-marygold.

Native of

Introduced

Flowers August and September.

A new species.

OBSERVATIONS.

I HAVE no recent specimen of *Sarcocolla* in flower, but I have seen many plants of it in that state lately.

Root, fibrous, perennial.

PLANT, branched, shrubbyish, allied to *Senecio* and *filamentosa*.

FRUIT, sagulose, about a foot long, incapable of supporting themselves long in an erect posture.

LEAVES, mostly sessile, near two inches long, glaucous, pinnate, (pinnules small, irregular, obsolete,) expanding, opposite, conspicuously triquetrous, rather crowded, acuminate or ending in a very fine white cartilaginous point, edged or bordered on all sides with a fine just perceptible cartilaginous margin, which on the leaf angle, is broader and serrulate, or rather raggedly torn, or irregularly broke or lacinate, whence my trivial name.

FLOWERS, large, showy, of a fine purple colour.

PERICARP,

PANICULAS, terminating the branches,
short.

The other parts I have had no opportunity of examining.

This plant appears very closely allied to *serotum*, but differs in its purple flowers, and perhaps many other points. See my account of *serotum* above.

- "*poli-* MAMMILLARIUM folio perfoliato
" *hilo* longifolio glauco; pediculis integerrimis
(116) " *tripectis*, apice subulatis, caule lignoso ascendente.

Great purple flowered fig-marygold.

Native

Introduced

Flowers July to October.

A new and most beautiful species.

OBSERVATIONS.

Root, strong, fibrous, branched.

PLANT, shrubby, not erect.

BRANCHES, arising opposite and alternate from the axils of the leaves, rather crowded, but not so much so as those of *equisetum*, (the plant next but one described,) generally ascending, but sometimes almost decumbent;—whilst young, short, greenish, or purplish-green, and angulate;—when old,

thick

long,

long, brown, woody, strong, and cylindrical.

LEAVES, of different lengths, according to their own age, and that of the plant;—in a fine young specimen before me, (given by the Foreman of Mr. Curtis's Botanic Garden) which consists of two principal ascending branches, each measuring about a foot; the leaves are from two, to even five inches long, and not a quarter of an inch broad;—young leaves usually ascending, incurved, very glaucous and punctate; pinnatures palmate, very numerous and well defined;—old leaves, expanding, or expanded, or in some instances recurved, glaucous and punctate,—all of them opposite, connate, or rather perfoliate, and as if sheathed just below the base, where they unite, and tubulate above;—tripinnate, slightly compound, angles very entire; the basal one sometimes slightly cartilaginous in the young leaves.

FLOWERS, I have often seen at Kew, (but have no specimen of them,) solitary, very large and specious, bright purple, making a fine contrast, with the very glaucous leaves, and purple and deep brown branches of the plant.

pegion-

pyrami- *MASTURVASTRUM foliis alternatis ob-*
longis, triquetris longiusculis impunc-
tatis.
 (117)

*Species Plant. 699, where Lin. gives the
 five following synonyms, which I have not
 by me to examine.*

Hort. Cliff. 228, No. 2.

Hort. Uxod. 229.

Reyn. Leyd. 281.

Michx. foliis pyramiformi, flos aureo fra-
gante, Dill. Edd. 280, t. 210. f. 269.

Florula capensis, Caryophylli foliis, flos aureo
fragans, Boiss. Bar. 2. p. 3. t. 14.

*The following synonyms likewise belong to this
 plant,—I have examined them.*

Michx. pyramiformis, Lich. Bar. 2. 383.

*Michx. pyramiformis, Hoffm. Bot. Tim. 2.
 146.*

*Michx. pyramiformis, Sib. Hort. Kew. 2.
 296.*

*Michx. pyramiformis, Phil. Hort. Kew.
 155.*

Michx. pyramiformis, Steud. Eflor. 62.

Michx. pyramiformis, Willd. Cat. 262.

*Michx. pyramiformis, Willd.'s Marjorana,
 1. 172.*

*Michx. pyramiformis, Alroer. Bar. Bar. 2.
 655.*

Michx. 45. pyramiformis foliis ovatis, fra-
gante, Rostk's Chryf. 223.

Reflector. 46, *foliis alternis subulatis triquetris brevissimis*, Mill. Gard. Dec. ed. 7.

Fernex 1. *Astra, arborescens erecta, foliis tri-angulatis, brevissimis, cuneatis acutis, per-petuis, fere luteo majori*, Benth. Ind. alt. Hort. Lug. Bat. part 1. p. 219, where he gives the following synonym.

Astra, Alnus, Capiti Ruar Spid, Linnæ, Floræ Boconæ, 19—1675.

Digger bear'd fig. manyfold.

Native of the Cape of Good Hope.

Cult. 1714, Art. K.

Flowers May to Aug.

OBSERVATIONS.

I HAVE no specimens of this elegant, and very singular plant for description, it possesses many characters peculiar to itself.

It forms a very handsome little shrub, particularly when it keeps erect, which it sometimes does, and supports its branches, (which are crowned above with thick tufts of fine long leaves,) in an ascending posture,—but it is often incapable of supporting itself erect, especially when drawn up in a house.

PECULIARITIES.

THE only shrubby fruit with alternate leaves.

LEAVES,

LEAVES, the largest and most elegant of all *Melastheranthemum*, pagoniform, trigonous, nearly upright, imbricate, glaucous, alternate, and more crowded than in any other species.

FLOWERS, very specious and yellow, larger than those of any other but I have seen bloom, very narrow petals, and like those of *M. elongatum* of the *Chilensis*.

ADDITIONAL OBSERVATIONS.

CUTTINGS of *M. pagoniforme*: strike root with great difficulty, but I have struck them without bottom heat, and very late in the year, even in a greenhouse.

M. pagoniforme very much dislikes the knife, I have known three very fine and promising young plants, in as many separate Collections, totally destroyed, by lopping the principal shoot off, for the purpose of propagation, although two of the three plants had very promising little buds or eyes beneath the wounded parts.

TWO who wish to increase *M. pagoniforme* from cuttings, would do well to select rather small than large shoots, —separate them from the parent plant with a sharp knife, —bruise or handle them as little as possible, —plant them

in a mixture of light earth and broken pieces of garden pots made small, keep them in a flow in the shade, and water them very sparingly.

M. rotundifolia, frequently perfists very fine seeds, and is readily increased that way.

pagiciforme I have lately received (amongst other succulent plants,) from a friend in Yorkshire, a plant, which was raised last year from Cape seeds, and which is like the *M. pagiciforme* in every respect, except in having much shorter leaves,—it has not yet produced flowers, and will in all probability prove the same.

In the spring of the year 1784, I had a specimen given me, (not in flower,) exactly like this, where it came from I have now forgot,—they are both most likely *pagiciforme* in a blunted state.

**equilaterum* *MESSEMBERYANUM*, foliis confertis, sub-connatis, longis, obsolete-punctatis; (118) *sub-equilateri-tripectris*, integerrimis, crasse, sagittato sub-radicante, prostratis. Long green leaf'd procumbent fig-mary-gold.
Native
Introduced
Flowers

OBSERVATIONS.

THIS is a new and very fine species of *McKenbryanthus*, the first time of my seeing it was at Mr. Lee's, from whence it was sent to a gentleman's collection by the name of *exilium*, a term too vague to be confirmed, whilst the nearly equilateral breadth of the leaves points out a better and more obvious one, but if the term *exilium* had been in print, I should have confirmed it.

I HAVE been told, it is a native of the country about Botany Bay, and the only *McKenbryanthus* found in that part of the world, and that it was named *exilium*, or *an exile*, because remote, or as if banished by nature, from the country of its kindred, the Cape of Good Hope.

BUT are not *rodolferum*, *chrysalinum*, *australe* and *cybern*, also the productions of countries distant from the Cape?

IT appears in its habit, and outward breadth, nearer allied to that noble species *M. pegioniforme* than any *McKenbryanthus* I have hitherto had the opportunity of examining.

MAY it not therefore be the same as the
 E b 4 species

species raised from what are called
Boney Bay seeds by Mr Colvill, sur-
geon, in the King's Road, which, I
shall notice more fully in my section
" *Incerta tribus*."

DESCRIPTION.

ROOT, fibrous, branched.

PLANT, a slender trailing shrub.

BRANCHES, long, angular, quite be-
comes when young, when old much
flexuous, weaker, and more crowded
than those of *pectabile*, arising oppo-
site or alternate from the axils of the
leaves, at first ascending, but soon be-
coming almost prostrate, often emitting
a pair of radicles from the joints.

LEAVES, small green, scarce to be called
succulent, is the plant before me from
two to three inches and an half long,
triangular, nearly equilateral, but
sometimes rather compressed, smooth,
lance, absolutely punctate, and more
crowded than those of *pectabile*, but
not near so much so as those of *po-
gionifera*.

FLOWERS, I have not seen.

whole
(115) *MIXOBRYANTHEMUM*, foliis equilateris
triangulis, acutis breviter impunctatis
connatis cuneis subsessilibus, caule as-
cendenti.

Lin.

Lin. Spex. Plantarum 633, where he gives the three following synonyms.

Melastom. foliosum majus, flore amplius luteo.

Dill. Herb. 217. t. 212. f. 172.

Prostratus seu frons stridens asperum majus prostratum triangulari folio, fructu maximo rubro.—*Flora. Lugd. 144. t. 443.*

Melastom's Historia Plantarum, 3. p. 306. f. 12. t. 7. f. 1.

The following synonyms also belong to *M. rubrum*.

Eglt. Voy. Lach. Dec. 1. 384.

Eglt. Nat. Genl. tom. 4. 346.

Art. Hort. Kew. 1. 192.

Hall's Hort. Kew. 134.

Swert's Eglor. 61.

Wight's Cat. 162.

Wight's Keweyman, 1. 171.

Abert. Str. 4. 653.

Melastom. 27, foliosum majus flore, amplius luteo. *Rand's Char. 133.*

Melastom. 27, Ind. Gard. Dill. ed. 7.

Prostratus 3, seu frons stridens asperum majus prostratum triangulari folio, fructu maximo rubro. *Boeck Ind. ed. Hort. Lug. Dec. Pars 1. p. 283.*

Epistola 89-marygold. Hortmoot's Eglor.

Native of the Cape of Good Hope.

Introduced 1690. Art. Kew.

Flowers July and August. Art. Kew.

OBSERVATIONS.

I have never seen the flowers of this fine looking plant; I believe it rarely produces them in this country, and only from very old plants; they are said to be very showy.

Definition. *MESSELYASTRUM* foliis adnatis-
(130) formibus obtusis imbricatis, cuneatis,
cuneis subulnatis, caule erecto.

Lin. Sp. Pl. 691, note given as synonym, says
he never saw its flowers, and that it is
called in *M. adnatis*.

Syst. Veg. Lich. 300 n. 384.

Syst. Nat. Grev. 2. 346.

Art. Hort. Kew. 1.—133, but gives no name
of flowering.

Mill's Hort. Kew. 133.

Sant's Essay, 61.

Willd's Cat. 162.

Willd's Harbortum, 1. 171.

Herer. Afr. 2. 453.

Neither Rand's Cliff, nor Miller's Dec. vol. 7.
describe the plant.

Perked Eg-marygold.

Native of the Cape of Good Hope.

Flowers September and October.

OBSERVATIONS.

THIS is a pretty plant, which rarely pro-
duces its flowers. LINNÆUS tells us in
Sp.

Sp. Pl. above refer'd to, that he never
saw them, and it is one of the very few
species for which Mr. Alton in his
Hist. Kew. has left a blank, that the
time of flowering may be added by the
reader.

I am therefore happy in being able to
give a full and minute description of
the flowers and other parts of the fruc-
tification of this plant, from several
living specimens, which are now in
blossom in my own garden.

DESCRIPTION.

Roots, fibrous, branched, perennial.

PLANT, decumbent, whitk young almost
herbaceous, becoming shrubby by age.

BRANCHES, weak, procumbent, or trail-
ing, short, often pendulous from a
hook, —acropetous, arising for the most
part in pairs from the axils of the
leaves.

LEAVES, sessile, ovate, obtuse, spinose at
the point, spinose short, barbed, like
herbaceous ferns, —at, leaves per-
sistent, expanding, green, large, com-
pactly inequilateral, channel'd above,
with a sharp angled keel, which is
spinulose above, —frequently a few very
short barbed spinule appear towards
the points both on the basal and keel
angles;

angles,—those on the keel slightly recurving and weaker than the lateral ones.

FLOWERS, as large as those of *bellidiflorum* *brissotii*, and much like them, but of a somewhat deeper ground colour, with a higher coloured line of purple up the middle of the petals, and not so pale on the outside,—opening in a furrow; handsome.

PETIOLES, angular, terminating the trailing branches, long, from one to three, from the same origin, when only one, furnished with a pair of bracteal leaves just below the middle like the leaves of the branches, (but rather less, and often three very serrulate towards the points,) when three the principal one often naked, the two lateral ones arising from the side of what would otherwise have been considered as its base; the lateral petioles are much less and stouter than the central one, supporting one flower each, and often furnished with a pair of bracteal leaves, resembling the leaves of the branches, but less and more loose, with slightly membranaceous edges.

CAULX, funnel shaped, five, cloth, segments equal, two of them plain, the
other

other three with slight membranaceous edges.

PETALS, numerous, broad, linear, at the points from one to three notched, only in one series and equal.

FILAMENTS, numerous, converged, or arched over the styles and germen, and purple.

ANTHERS, small, pale.

GERMEN, hemispheric, slightly five angled, dryish.

STYLES, five, very short, expanding, or, at base might almost thick, seen, but five stigmata, with roughening feathery purple points.

CAPULE, hemispheric, five angled, five celled, cells small, dry.

SCAPS, few, in the green capule, white, oval-kidney shaped,—in the glass, appearing as if marked with the chequered rudiments of future crinotions, or rough places, and attached to a filament similar to that affixed to the seeds of *M. radiatum* above described. Mature seeds I have not seen.

ascendi-
forme
(131)

MESECHRYSTANTHEMUM, foliis utraculiformibus impectinatis, corollis, angulis carnalibus scabris, petalis lanceolatis.

Sper. Pl. 833, where *Lam.* gives the description being *fruticosa*.

Hort.

Hort. Cliff. 219. No. 12.

Reyn. Lapid. 284.

Melampy. acuminiforme, *flor. ampliflora* *pur-
purea*, Mill. Esh. 122, t. 111, f. 272,
et. t. 212, f. 271.

The following *Junonia* also belong to it:—
I have examined them:

Melampy. acuminiforme, Guss. Hort. Alab.
244.

Melampy. fulvum, Egl. Voy. Lich. Soc. 1.
384, named so through error and oversight;
for on account of which, for my remarks
on *M. fulvum* above.

Melampy. fulvum, Guss. Egl. Nat. Tem. 2.
246, named so through just erroneous error:
Aho; for on account of which, for my
Observations under the *Junonia* of *M.
fulvum* above.

M. acuminiforme, de Hort. Kew. 2. 189.

Melampy. acuminiforme, Nutt. Hort. Kew.
155.

Melampy. acuminiforme, Steud's Egl. 61.

Melampy. acuminiforme, Willd's Cat. 162.

Melampy. acuminiforme, Willd's Nomenclon,
1. 170.

Melampy. acuminiforme, Horv. Ar. 2. 625.

Melampy. 46, acuminiforme, *flor. ampliflora*,
purpurea, Reud's Cliff. 233.

*Melampy. 26, folio acuminiformiter crenatis
lobatis, caule decumbente*, Mill. Esh. ed.
7, belong to this plant; if it does not
belong

belong to *M. decumbens* above described, and on thoroughly re-considering the matter, I now incline to think it does belong to *schimperi*, and that *Boissier*. 47, *filix fulgens* *respectu* *horvichi*, *ramis* *depresso* *decumbat*, *Mill* *Dir.* *ed.* 7, is the same as my *decumbens*. See my *Cylindropuntia* on this subject, under the description of *M. decumbens* above.

Prodrus 4, *pro* *filix* *decumbens*: *aplicans*, *major* *pro* *decumbens* *triangularis* *filix* *cylindrica*, *Burch.* *Ind.* *alt.* *Hort.* *Lag.* *Bot.* *pars* 1, p. 289, who only refers to.

H. L. 244—or *Hornem's* *Hort.* *Lag.* 244.

Cylindropuntia *leucod.* *fig.* *marrygold*.

Native of the Cape of Good Hope.

Cultiv. 1714, *Alt.* *K.*

Flowers August and September, *Alt.* *K.*

OBSERVATIONS.

I never saw this large *Melastromaceae* flower, and I believe it is only occasionally from old healthy plants that the flowers are produced, in this country at least.

DESCRIPTION OF THE PLANT.

The roots are perennial, fibrous, and branched.

The branches are very long, at first ascending, but afterwards incapable of supporting

supporting themselves in an erect posture, become deflexed, or decumbent.

The leaves are ovate or shaped, and perhaps the largest of all shrubby *Mclembranthems*, except only those of *M. maximum*, the new plant next described, which are deeper than those of *M. acinaciforme*, (whence their former name,) but not often longer, or so long.

R E M A R K S .

The flowers of *acinaciforme* are purple, with lanceol petals, and are said to be larger than those of any *Mclembranthemum* *Richards* discovered.

But I am led to conjecture from etymology, that those of *M. maximum*, which have not as yet been seen in this country, will be still larger, and have still broader petals, because the leaves are deeper from the keel to the upper surface, than those of all the other species, for I have constantly observed, and it is worth remarking, that the broad leaved, and rather deep, or bell-shaped leaved species, (that is, the compressed sub-acinaciforme sorts) of my perennial division of the genus, have (so far as I have seen at least) always proportionally broader petals, (added in the shrubby kinds to uncipitous shoots) than the cylindrical or triquet-

1766,

seems, not compressed leaved species, (whose shoots are cylindric or angular) of the same division,—attach the large broad petals of the liliiform kinds, and fine lance petal'd flowers of *scilla*, *adonis*, and others, which latter being shrubs, have succulent shoots.

And it is equally worthy of remark, that the long slender leav'd kinds of the same division, whether triquetrous or cylindrical, produce flowers with petals of a shape conforming somewhat to the outline of the leaves; hence are observed the long almost capillary petals of *M. elongatum* *pugioniforme*, and others.

But here it must be noticed, that of the long slender leaved kinds, which produce long linear petals; those with cylindrical leaves have petals rather broader, and when broader, rather shorter, (for nature was not so lavish of her beams as to give both length and breadth, where she had bestowed either in a beautiful way,) than the lig-triangular species, *linaria* *tricolorum* and others, whose petals, although long and linear, are not always so very narrow as those of *pugioniforme* and others.

C c

HIER,

HIERA, a *perfolia* converlant with the numerous individuals of this extensive, most oddly varied, and beautiful genus of plants, may almost form an idea of the size and nature of the flowers, of such new or other species, as he has seen and contemplated the leaves of only,—but to proceed—

See some other remarks on *M. acrocarpha*, in pages 361, and 364.

***maxima** **MEEMBRYANTHEMUM**, foliis linearibus,
(132) **caule arborescente.**

Meembryanthemum.

Native of the Cape of Good Hope.

Introduced

Flower

A new and noble species, the largest *Hiera* known.

OBSERVATIONS.

I state this fine species is a native of that never-failing source of succulent and other beautiful plants, the Cape of Good Hope.

HERBERT. I have seen it in two places only, viz. a few plants in bot. Majesty's Garden at Kew (raised there I believe from Cape seeds) and one plant which was raised from Cape seeds by ———, Nurseryman at

Turnham-

Turkistan-pecan. The seed of it came over amongst a parcel of hench seeds. From the produce of it, I received the specimen before me, which is small, consisting only of a sprig with eight leaves, but which, with my own knowledge of the plant, will suffice for a description of its parts, so far at least, as concerns the branches and foliage, the parts of fructification, I have already noticed under my observations on *M. acinaciformis*, have not as yet been developed in this country.

DESCRIPTION.

Root woody, strong, emitting numerous rootlets and fibres.

Stem strong, firmly upright, pretty regularly branched, woody, more like a little tree, and apparently disposed to grow to a larger size, and make a nobler plant than any *Melobryanthemum* I have yet seen.

Branches expanding, numerous, disposed somewhat in a pyramidal manner, strong and stout, whilst young aspidicous, glaucous-green, and thickly covered with the fine leaves of the plant; when old, more cylindrical and woody.

COLEA

LEAVES,

LEAVES, linear, or, very compressedly triangular, incurving, with a sharp gibbous keel angle, which forms the wide half of an oval, (whence the linear form) is very entire, and edged with a slight cartilaginous margin, which does not terminate in a point, like the cartilaginous keels of many *Macarthyranthemum*, but ends, in my specimens at least, rounded and blunt—leaves opposite, rather amplexicaul, or embracing the stem, thus connate, much the thickest towards the base, especially on the inside; the largest ones measuring when full grown, about two inches long, and almost one deep, from the back or upper side to the most bulging part of the keel, or lower part; and about the third of an inch on the broadest part of the upper surface, which is near the lower keel, just by the stem, from whence to the point it (the upper surface or angle of the keel,) gradually tapers to nothing. — All the leaves are smooth and every way bespotted, with very minute, faint-pellucid irregularly confluent, or as it were reticulating stigmas, or minute impunctations, and are covered all over with a very white glaucous bloom, (as it is perhaps improperly called), resembling

garbling that of a fine plant, or that which beautifies the fac-simile (species of *Cactus*, (as *Cactus repens*, *scandens*, *articulosus*,) and like those delicate blooms, destructible by the touch, or most easily rubbed off, never to be restored.

It is not so with *M. albidum*, the colour of that fine plant is, if I recollect right, and may be allowed the expression, white in the grain; how different the nature of those whites—how, or by what secreting or excretory glands is this white colour of *M. maximum* protruded to the surface of its leaves?

Or, may I ask, whether it is an extraneous apparatus extracted from the atmosphere, by the absorbing organs of the plant? It can scarcely be supposed the refuse or rejectamenta of any absorbed fluid, too large for the filtering offices of the absorbing vessels to take in—for was that the case, the oldest leaves would be the most densely covered with it, and the young ones the least; whereas the contrary is observed to take place; the youngest half grown leaves being the whitest, and the old dying ones yellowish.

Is it essential to the welfare of the plant? I think it is, for the heartiest

C : 3

plants

plants should grow in it ;—but why, if essential to the welfare of the plant, has nature formed it of such desirable materials?—why, when only touched with a finger or any other body, does that part of it which suffered the unfoliated, and as it were injurious or harmful contact, perish, never to be renewed?—was it intended to the health of the plant, would not nature restore it, or, at least attempt to do so? cannot she even replace a branch or a root?—and why not this apparently less important material?—But if it is not essential to the well-being of the plant, why have all healthy plants more of it than sickly ones?

Indeed, I believe it is absolutely necessary to the welfare of the plant, and cannot either consider it as an extraneous acquisition, attended by the absorbing organs of the leaves from the bound atmosphere about them, or, as an excrementitious material, that retained within them might become obnoxious and harmful to their health ;—no; I rather consider it to be a most minute species of clothing or covering, or in other words, the least conceivable, and as yet unnoticed degree of pubescence, as fine, or finer, and as frail,

shell, and indeed more inconspicuous, than the plumage of a Pheasant or butterfly,—who a century since, would have believed the latter a regular congeries of real feathers? and perhaps I may add, who will now believe the former to be an almost inconceivably minute and unnumbered species of what Linnaeus terms the pubescence of plants?

THIS idea, however winged, and remote it may appear to the generality of my readers, finds some encouraging confirmation in my own opinion at least, when I consider, that the whitish or rather hoary, scarcely to be called glaucous surfaces, (although most evidently of a similar nature,) of my *M. caryon*, and the *M. mollis* of Aiton's *Flora Kew.* are when magnified, found disposed in several places to shoot into a minute degree of pubescence, or hairs, invisible to the naked eye,—from a quality of rendering, and from a close analogy it is that I conjecture all degrees of a glaucous colour on the surfaces of the leaves and fruits of plants, to be so many minute species of what the great Linnaeus denominates the pubescence of plants.

C c 4

I HAVE

I HAVE said when rubbed, the glaucous colour of *M. maximum* dies never to be restored; so perhaps say some visible degree of pubescence, so likewise fill the hairs of hirsute plants, when forcibly detached from the surface that gave them birth;—they perish not to be renewed!

It may be urged against me, and I am aware of it, that force is necessary to detach the hairs of hirsute plants, from their foundations or sources,—and that the glaucous colour of glaucous plants is rubbed off their surfaces with force & scratch.

THE only sufficient answer I make to this idea if it should be urged against me is, that force is nearly comparative,—that a thorn is less easily detached from its post than a hair,—that the brittle feathers of a small moth are much sooner damaged than those of a large butterfly, and that a dwarf falls sooner to the ground than a giant,—but again let me drop such digressions.

ADDITIONAL OBSERVATIONS.

THE flowers and other parts of fructification of *M. maximum*, have not as yet, so far as I know, been produced

in this country, see my observations on this subject, under the article *M. schuchertii*.

REMARKS.

HAVING now got through my account of what I call my most regulated species, that is, having gradually advanced from few, to many, from little to great things; in a word, having passed from *M. minimum* to *maximum*, I hasten to that opprobrious part of my observations, the section, "*facile ad-heret*," every plant of which, [if I had possessed specimens to examine,] I could, and would, have placed and defined, in their natural order, in my former and regulated section, "*serena*,"—" *serena*,"—" *serena*," for such was my original intention and design.

— I N.

*** INCERTÆ TRIBUS.

OR. APPENDIX.

† NEW SPECIES.

MESEMBRYANTHEMUM.

*arctical-
culum* (1) MESEMBRYANTHEMUM, a fleshy
plant, with the habit and appearance
of filices, or calamagrostes.

OBSERVATIONS.

Root, perennial, fibrous.

Plant, fleshy, dwarfish.

LEAVES, like those of filices, but not
gibbous, and more cylindrical, or
sagel as all sides; imbricate,
lanceolate glaucous, about two inches
long, very robust for their length,
with three very obscure ridges or angles
from the base to the point, giving
them an obscurely trigonous form,
and showing they would have been of
that shape if they had not been so
roughly plump or fleshy.

FLOWERS, I have not seen.

This plant may perhaps be the same as
Mr. Lee's *pandatum*.

Turgid

Targid fig-marygold.

Native of
Introduced
Flowers

pendu- There is a slender *McKenbryanthemum*, called by this name at Mr.
um Lee's.
(1)

OBSERVATIONS.

I know nothing of it but its name, and that it is a fruit plant. It may possibly be the same as *terrestrisum*.

Dotted fig-marygold.

Native
Introduced
Flowers

cylindri- There is a *McKenbryanthemum* in
cum varieties called by the name of *corniculatum*, but from the title I have
(2) seen of it, I apprehend it will prove a very different plant.

OBSERVATIONS.

The leaves appear more glaucous, longer, more regular, and more upright, and cylindrical, than those of either *corniculatum*, or *corniculatum* & Linn. on which last account, I have wrote *cylindricum* in the margin.

Flowers,

Flowers, I have not seen.
 Cylindrical, lined fig-marigold.
 Native
 Introduced
 Flowers

margina- I have seen a little shrubby Melan-
 tum leptostichum at Kew, about four
 (4) inches high, and not much branched,
 with an habit and appearance between
 ciliatum and mutabile.

OBSERVATIONS.

It was larger than ciliatum, and less
 than mutabile, in every respect; the
 Leaves, were small, of a shape between
 cuneate and hatchet-form, and were
 for the most part glaucous and edged
 (especially the young) with a very
 white, or somewhat rusty margin, or
 border, which last circumstance in-
 duced me to adopt the term mar-
 ginatum for its usual name.

Flowers, I have not seen.
 White edged fig-marigold.
 Native
 Introduced
 Flowers

sinuatum Is a youngling specimen, I have seen
 (5) a plant, which I believe was first this
 that

der from London by the name of *Melastrianthemum nitidum*.

OBSERVATIONS.

A *terre* plant of this I have lately received (amongst other succulent things) from a correspondent in Yorkshire; and I believe it will prove the way home to the plant I have called *Spinuliferum*; but it has no appearance of spinulent stipule upon it at present, although I have seen left plants, of what I know to be *Spinuliferum*, with spinulent stipule upon them.

DESCRIPTION.

THE following is a minute description of the above-mentioned *M. nitidum*, now standing on the table before me; it appears as if it had been drawn somewhat weak by the warmth of a stove, or too much moisture.

Root, fibrous, but fleshy, and not so much ramified as the roots of most *Melastrianthemas*.

PLANT, forming a small weak branched succulent shrub.

BRANCHES, on the plant before me, four; the longest of which is not half a foot

a foot long, with the joints or eyes of luscious branches arising opposite and axillary from the side of its leaves; it is cylindric and expanding, but has a tendency to be decumbent, it is green and succulent, and covered with the fleshy sheaths of the leaves, which glister beautifully with innumerable rather oval chrysalline papule, some of which appear sunk, others elevated; —the branches appear as if they would shrink a little in thickness on the decaying of the succulent leaf sheaths, which insect them, and acquire a darkish brown colour, and become ligneous; they also appear as if they would become somewhat jointed after the decay of the leaves, or marked with a swelling just by the basis of the leaves; the joints when not drawn long by heat, or too much moisture, appear to be about half an inch apart; when drawn by heat or moisture, above an inch; as in the case with most of them, in the specimen before me.

LEAVES, opposite, sessile, or rather petiolate, sheathing the stem, expanded, but not horizontally, green, grooved, many of them an inch long, semicylindric, somewhat tubulate, channelled above, especially from the middle

saddle downwards to the base, the channel or hollow being still upwards near their very blunt cylindrical points, which are marked (as well as every other part of the leaves and their sheaths) with large impenetrable, or, roundish-oblong, rather hollowed or sunk, chrysaline papule; which papule, when adorned by the reflecting hairs of the fur, glitter and sparkle in a most beautiful manner.

Flowers, I have not seen.

ADDITIONAL OBSERVATIONS.

ALTHOUGH most of the leaves are about an inch long, on the above plant, which, I have said, looks as if it had been drawn slender by warmth or moisture, there are three on the lowest part of it (where the joints are not a quarter of an inch long, and consequently not so much drawn by warmth or moisture) which are not half an inch long, perfoliate, (their sheaths very short, reaching to the short joint below them) linear-lanceolate-subovate, very blunt, not channelled above, and covered with sparkling chrysaline papule. "

I have also brought two plants of *M. agri-*
dum, viz. the plant before and one in

Yorkshire;

Yorkshire; except my *M. spinuliferum* should prove the same.

Spreading fig-marygold.

Native of

Introduced

Flowers

stellatum (6) I have seen a *Melastreyanthemum*, I think in the collection of Dr. Swinfen at Twickenham, which was called by the trivial name of *stellatum*.

OBSERVATIONS.

It had leaves, triquetrous, compressed, of a moderate size, and a shrubby branched stem, a foot or more high. I obtained no specimen of it, and did not see it in flower.

It may possibly be the same as either *brachyentem*, *radiatum*, or *compressum*, of these observations; but I am nearly sure it is not the same as the next mentioned *compressum*.

Stellate fig-marygold.

Native of

Introduced by

Flowers

compressum (7) I remark it was also at Dr. Swinfen's, that I saw a *Melastreyanthemum*, under the trivial name of *compressum*.

O B.

OBSERVATIONS.

It was a small branching shrub, with compressed triquetrous leaves, apparently different from the foliolum just mentioned, but may be the same as the plant named *compressum* in their OBSERVATIONS, although I think it is not.

The flowers I saw not, neither does my knowledge of it reach any farther.

Compressed fig-marygold.

Native

Introduced.

Flowers

micro-
phyllum
Yorkshire,
(1)

In YORKSHIRE I have seen a small scabry *McMurtreanthearum*, called by the name of *microphyllum*. I have wrote to a friend about it, but he has informed me in answer, that the plant is no more, I believe it went thither from a London nursery, by the name of *microphyllum*.

OBSERVATIONS.

From what little I recollect of it, the plant was like either *brevisolum*, or *ciliatum*, it was small and in a bad state of health; and at the time I saw it, I had neither seen *brevisolum* or *obtusum*, and I asked no specimen of

D d

W.

it, which causes united, form my perfect uncertainty about it; it could scarcely be the same as my *marginatum*, and yet it was not greatly unlike that plant.

In several places I have heard *bracteatum* called by the name of Mr. Lee's *microphyllum*, which renders the idea of their being the same plant at least probable.

Its flowers I saw not; and my memory permits no farther account of it.

Small hard fig-marygold.

Native of

Introduced

Flowers

micro- At Messrs. Greenwood and Co's, Ken-
phyllum ington, I have seen another *Meliss-*
Kendleton. *bracteatum*, called *microphyllum*.

[s]

OBSERVATIONS.

I remark it appears different from the last mentioned plant, in having much larger leaves; indeed, I am much mistaken if it is not the same plant as my *bracteatum*, which is sold by Mr. Lee under the name of *hispidum horridum*; for a farther account and particular description of which, see

for my remarks on *hirsutum* of these
OBSERVATIONS.

R E M A R K S.

As my hirsutum in some dates is like *bee-*
villosum, and is also like what is called
macrophyllum at Kensington, it may
possibly, notwithstanding what I have
just conjectured to the contrary,
prove the same plant as the Yorkshire
microphyllum.

I ~~cannot~~ I have no specimens of this
plant to describe.

Cylindric small leaved fig-marygold.

Native of

Introduced

Flowers

aggrega-
tum
(16)

At Mr. Lee's there is a *Melimbrya-*
theum called by the name of aggrega-
tum, which I remember very little
more about than the name.

O B S E R V A T I O N S.

It is a small plant, and can scarcely be
the same as my *aciliformis*.

I have not seen the flowers, and never
had any specimen of it.

Aggregatæ fig-marygold.

Native of the Cape of Good Hope.

Introduced

Flowers

D d a

hirsutum

- humifan-*
sum
 (11) At Mr. Lee's is likewise a *Melanchry-*
anthemum, called *hispidum humi-*
fanum.

OBSERVATIONS.

I have not seen it, but cannot avoid
 conjecturing it to be the same plant
 as the *hispidum humile* above-men-
 tioned, which is my *histrum*.

Tending fig-marygold.

Native of

Introduced

Flowers

- hetero-*
phyllum
 (12) I have seen a fine fruticose *Melanchry-*
anthemum, with various shaped green-
 ish sessile leaves, the lower ones
 somewhat like those of my curren, the
 upper or inner ones somewhat like
 those of *diffusa*, but not quite so
 large. It is a new and most distinct
 species.

I have no specimen of it, and never saw
 its flowers.

Various leaved fig-marygold.

Native of

Introduced

Flowers

- (No. 13.) At Mr. Colvill's Nursery, in the King's
 Road, I once slightly took notice of
 a beautiful *Melanchryanthemum*, so
 like *papposiforme*, that I at first al-
 most

most thought it the same; but was assured by Mr. Colvill that it was a very different plant, and that he had raised it from Botany Bay seeds; he added, that the flowers were uncommonly fine and showy.

CAN this plant be the same as my equisetum, which I have said is from Botany Bay, and resembles papilioniform?—Or, can we suppose it the same as my spectabile, which has a very specious flower, but whose country I know not?

As Mr. Colvill has sold all his stock of this plant, and as I never had any specimen of it, and never saw its flowers, it is quite impossible to say any more about it; it may perhaps be the same as my elongatum.

New dagger-leaved fig-marygold.

Native of New South Wales.

Introduced by Mr. Colvill, Nurseryman, in the King's Road, 1792.

Flowers

(No. 14.) At Kew I have seen an upright Melampyrum, three feet or more high, with leaves like those of veruculatum, but more distant, and only half the thickness, with something of the habit of nodiflorum.

OBSERVATIONS.

I have no specimen of it—never saw its flowers, and am almost tempted to conjecture it the same as my *fruticulosa*.

Arcadia fig-marygold.

Native

Introduced

Flowers

(No. 15.) I have also seen a *Melambryanthemum* at Kew, very much like my *gibbifolium*, but apparently of a much grayer colour.

In flowers I have not seen.

It is probably the very same as *gibbifolium*; I have no specimens to compare.

Green gibbous fig-marygold.

Native of

Introduced

Flowers

In addition to the above uncertain *Melambryanthema*, I have seen two or three raised from Cape seeds, and have raised some myself from Cape seeds, which are not yet far enough advanced to distinguish with sufficient propriety what they are.

(No. 16.)

(No. 16.) PARTICULARLY I have seen two forms,
 one with broad leaves somewhat like
 those of the ice plant, *M. chrysal-*
leum, but different.

(No. 17.) Also one with longish subcylindric leaves
 like those of *M. heliolum*, but appa-
 rently different.

D d 4 .

†† D E.

†† DESCRIBED by AUTHOR.

THE following *McKenbryanthus* I have never seen, but have taken them up, from the authors they are referred to, I BELIEVE every one of them distinct from all the former, and from each other.

cardi- *McKENBRYANTHUS* foliis lanceolatis
folium *crassifolius* oppositis integerrimis,
(1) *placis* sessilibus, cum caule tumida
peripano-papulosis.

Syst. Nat. Gard. rom. 2. 846. who refers to,
and appears to have taken up the plant
from,

Jour. coll. 2. p. 319. and

Rare. rom. rom 2. 6. 41.

Wedge leav'd *Ag-marygold*.

Native of

Flowers

OBSERVATIONS.

I do not know that this plant has ever been cultivated in this country, nor did I ever see a specimen of it.

It is in all probability an annual plant: and should form pretty nearly allied to the plant I shall call *M. Vulturaria*, and may possibly be the very same, but from what I can judge they appear distinct.

crina-

cris- MEGASTYANTHEMUM, foliis ovatis,
 florum. capsis trifloris.

(*) *Law. Suppl. Pl. 259.*

Aggl. Nat. Good. tom. 2. p. 144.

Blue-flowered fig-marygold.

Native of the Cape of Good Hope. Sup.
 Pl.

Flowers

OBSERVATIONS.

I do not know that this plant has ever
 been cultivated in this country,—not
 have I seen a specimen of it.

It should form an annual rooted species.

A complete description of its parts is
 given by the younger LAMOUR, in the
 Supplementum Plantarum above quot-
 ed, to which I beg the reader to re-
 fer.—It is one of the very few species
 of this genus which is said to have pe-
 tioled leaves,

capillare MEGASTYANTHEMUM, foliis connatis,
 (1) serratis, papulosis, caule erecto, ramu-
 lis unifloris, stipulibus glabris.

Law. Suppl. Pl. 260.

Aggl. Nat. Good. tom. 2. p. 141.

Slender branched fig-marygold.

Native of the Cape of Good Hope. Sup.
 Pl.

Flowers

OBSERVATIONS.

I believe this plant has not as yet been introduced into this country, nor have I seen a specimen of it, which perhaps, it should prove the same as my *trachium*, above minutely described.

I think it is not the same as *trachium*, because, it is described as having roundish papulose leaves,—whereas the leaves of *trachium* are nearly triquetrous-fimbriate, and scabrous-punctate, not papulose,—with the basal angle often scabrous-ferrulate.

Volckameri (4) *Melombranthaceae*, " *Excoecia africana procumbens, herbacea, semine foliis argenteis minutis.*"—

Falken. Fl. Northerg. See Cat. 166. plate, not fig.

Volckamer's fig. very good.

Native of the Cape of Good Hope.

OBSERVATIONS.

I TAKE up this plant from Volckamer's *Flora Northergensis*, a book I have only just met with, or I should have referred the other *Melombranthaceae* described in it to the species they belong, in their observations.

THE

THE figure is a large, and apparently an accurate one; from it, not from Veldknecht's account, which I would have the reader himself to examine, I take the following

DESCRIPTION.

PLANT, much branched, diffuse.

BRANCHES, very numerous, fasciculate, trailing or decumbent, arising opposite, and arillary from the side of the leaves—scandent and covered with ascending, or close-pressed pilosest papule.

LEAVES, crowded, opposite, expanded, or reflexing, serrated, or oblong-lanceolate, blunt, pointed, flatish,—slightly carinate, and attenuating downwards into a kind of petiole; every where covered with long rough—probably hanging—pilosest papule, and often bent back at the point.

FLOWERS, when expanded larger than a filling, pretty,—disposed somewhat dichotomously, as in *M. viridiflorum*, which in the corolla they much resemble.

FRUIT, in the figure, five, the central one largest, three quarters of an inch long, cylindrical, covered with a few roughening papule,—the lateral ones

ones on each side the former, much shorter, smoother, and ascending higher, two in number, and either in a nodding, or nearly upright posture, the flowers they support being only in bud.

BRACTEA, several, foliaceous, or resembling the leaves of the branches, but less and steeper, sitting opposite the peduncles, and scarcely more than twice as long, as appears by some of them, sitting opposite, and, protruding the rudiments of flowers, (possibly the rudiments of lesser flowers) from their axils.

CALYX, large, succulent, papalike-pubescent, reniform-oval, deeply five-lobed.

SAMENTA, unequal, papalike and blunt, three longer than the rest, somewhat foliaceous, the fourth shorter than the former three, and the fifth rather less than the fourth.

PETALS, very numerous, and linear.

FILAMENTS, very numerous, expanded, unequal, and slender.

ANTHERA, ovalish.

STYLUS, five or six, long, slender, expanding, revolute, and nearly equidistant at the points.

GENA,

GERM, CAPSULE, SEED, AND ROOT.	}	Not represented in the fi- gure, which in all other respects appears a com- plete one.
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Hermani *MIMMISTANTHEMUM*, ("FICOIDES,
(5) *arvensis, arvens contractoides.*")

Herman's *Parad. Bat.* 169.

Herman's fig. surrygold.

Native

Flowers

OBSERVATIONS.

I never saw this plant, or any specimen
of it, but beg the reader to refer to
Herman's account of it.

maculatum *MIMMISTANTHEMUM*, ("FICOIDES,
(6) *arvens minus maculata.*")

Herman's *Parad. Bat.* 170.

Moss-like fig. surrygold.

Native

Flowers

OBSERVATIONS.

There appears to have been the least fig-
surrygold Herman had ever seen, I
have never seen a specimen of it.—The
reader will find a further description of
this small plant in Herman's *Par.*
Bat. above quoted.

In addition to all the above-mentioned *MISCEMYASTEMA*, there are still several more described in the works of Boerhaave and others, which it will hereafter be my business to examine, and make known.

And a few in his Majesty's Botanic Garden at Kew, and in some other collections which have not been described at all, either in their *Observations* or elsewhere.

P O S T.

POSTSCRIPT.

HAVING at length performed the task I had chalked out for myself, and having concentrated all the species of *Blasphemism* I can boast an acquaintance with, except a few, which I have find are still to be found in some of the collections about London, and in the works of Beaumont and others, and which when I get the books, I shall make it my chief business to examine and develop; having performed this task I say, in the best manner my abilities and opportunities allow me to do it, I cannot take my leave of the Beaumont's reader, if even he has patiently condescended to cast his eye on me so far, without troubling him with a few supplementary requests.

First, I humbly request his kind and judicious indulgence will weigh and consider the general difficulties and nature of the subject I have had to handle, as well as those which I have stated

stated to be peculiar to the inconveniences I laboured under (which inconveniences I have candidly, and perhaps too particularly pointed out) —I request he will do these things, and then *quit of me as I desire*.

Secondly, if in examining any of my descriptions, he does not find them to answer so accurately as he could wish, I do also humbly request it may be remembered that no tribe of succulent plants puts on such a variety of different appearances, from the effects of management, as the *CISTUS MONSPELIENSIS*;—that no one genus *by nature* is more diversified in structure and habit, more extensive, or whose individuals or species more nearly approach each other; or are with more difficulty distinguished from their congeners.

How much (while young) they vary when raised by seed or cuttings, from the parent plants which produced them? admitting equal treatment to have been administered.

How they are altered by the warmth of a stove, or the cold exposure to mid-night dew!

And how much and how differently affected when their leaves and joints are

not only elongated, but altered even in their outline, by too much moisture, or shortened and flatted by excess of drought.

These things are known to most, who cultivate plants.

M. arvensis, when young, or when supplied with too much warmth or moisture, has long leaves, slightly channelled above; when not drawn by any of these causes, its leaves are truly cylindric, and excessively short.

M. arvensis, when in a pot, and not drawn up weak by warmth or moisture, has fine descending shoots, which do not exhibit the most distant propensity to throw out radicles at the joints; but *hippocrepis*, when placed in the full ground, and encouraged by moisture, becomes quite decumbent, and acquires many septant stems.

M. convallariæ, when pushed for water, is small, healthy, and not prostrate, but abundantly prolific; but when placed at large, in the borders of the garden, it becomes extremely large, prostrate and grove, luxuriant and barren.

Among these, other instances are visible. Except by way of illustrating, or rather let me say corroborating, the above

E e

mentioned

mentioned Proteus-like mobility, that is so frequently observed to affect the leaves, joints and shoots of *McKenbryanthus*, I add the following brief passage from the " *Dictionnaire Botanique*" of that experienced judge of such matters, Professor Bradley, — a work I have had the pleasure to meet with since I wrote the foregoing parts of my observations.

BRADLEY, in speaking of *McKenbryanthus*, in his " *Dictionnaire Botanique*," under the article " *Ficoides*," says, — " The very succulent
" sorts require very little water in
" winter, but all the sorts require in
" general a great deal of air; or they
" will be apt to have their leaves and
" shoots grow longer than they should,
" and we shall not know how to dis-
" tinguish them; for they are very
" apt to grow out of our knowledge,
" if they are close confined from
" air."

BRADLEY, under the same article, further acquaints us, that all *Ficoides*-
" golds, " except the annual sorts, we
" may raise from cuttings; and even
" the annuals may be raised that way,
" but their dying in the winter makes
" it not worth our while; they are
" also

" all to be raised from seeds sown in
 " March upon common hot-bed,
 " but the cuttings of all of them
 " gave much the best if they are
 " planted in the natural ground."

I have inserted the last passages of the
 " *Dictionnaire Botanique*" for two
 reasons:—

FIRST, because the work is rather a
 scarce one, and not much known to
 Botanists. It is not, if I recollect
 right, enumerated in the extensive
 Catalogue of Botanical Books, given
 in the fourth volume of Wilson's
Nurseryman, or "*Botanical Uni-
 versity*;" and—

SECONDLY, because Bradley says the
 annual species of *Melambryanthemum*
 may be struck from cuttings, an asser-
 tion that makes much against myself,
 for I have declared, in the First Part
 of these observations, (now printed
 off) that the two annual species which
 I have seen, viz. *M. pictatifidum*,
 [ragged-leaved ice-plant,] and *M.
 chrysanthemum*, [common ice-plant] are
 not to be struck from cuttings, by
 any art that I am acquainted with.

BEFORE I take my leave of the above
 passages, I cannot avoid observing, that
 Bradley appears rather to contradict

E & S

himself

himself is it, as will appear by a careful review of its component words, for he says in the outset of the passage,—“ That all fig-marygolds, or
 “ *apud the several sorts, we may raise*
 “ *from cuttings ;*” and proceeding in the passage, adds that—“ even the
 “ *annual may be raised that way, but*
 “ *their dying in the winter makes it*
 “ *not worth our while.*”

I suppose we must understand by the whole of the passage, that all the several species of *Melastreyanthemum*, or at least some of them, are capable of being increased by cuttings, with proper attention and care ; but that they strike roots with much greater difficulty than the perennial and shrubby species, and are not worth the trouble of raising from cuttings, while we can have a plentiful increase of them by seeds in a much easier manner.

BRADLEY, in another place, under the above-mentioned article “ *Ficoides*,” says that he—“ once had completely
 “ *four sorts, very different from one*
 “ *another, these I divided into*
 “ *classes, viz. the tongue-leaved dwarf*
 “ *kind,—the also formed dwarf,—*
 “ *the freestant upright kind,—the*
 “ *creeping*

"creeping kinds,—the right flower-
 "ing kinds,—and the annual kinds,
 "—and the tree kinds,—many of
 "which I have also figured on my
 "decades of faculent plants."

BRADLEY also tells us, that he named
 the genus, "Fig-marygold."

I read the above-mentioned "*Deffina-
 rium Botanicum*," which appears to
 have been published in the year 1786,
 in two octavo volumes, was the first
 attempt ever made in this, and perhaps
 any other country, to reduce, or rather
 separate and lift, to alphabetical order
 and precision, the bulky materials of
 botany and horticulture,—with what
 success it was afterwards refined and
 expanded, (not to say wrought to per-
 fection) by the unwearyed assiduity of
 the industrious and much to be re-
 gretted MILLER,—few, I trust, who
 delight in gardening, have yet to
 learn.—But to return,

I HAVE said it before, and I say it again,
 that all my descriptions were made
 from real specimens, as they laid before
 me,—except in the few instances where
 the contrary is particularly pointed
 out,

I HAVE enumerated (and described as
 far as my specimens enabled me) one
 E o 3 hundred

hundred and thirty-two distinct species of *Mesembryanthemum*, exclusive of a great many others placed under my fiction " *Incerta sedes*," and all varieties, a number nearly double that in the last edition of *Species Plantarum*, and greater far, than I, but one year since, supposed the fertile and productive bosom of created nature to contain.

Almost fifty of the above-mentioned species I believe to be entirely new, and undescribed.

THROUGHOUT my account of the whole, I have endeavoured to make my descriptions rather plain and intelligible, than either concise or elegant. In a word, it has been my aim, by connecting the varying points of the different species as much as possible, to furnish an opportunity for the unlettered gardener to make himself as well acquainted with the singular and beautiful plants I have described, as the more liberal and experienced botanist, whose propensions have been directed his delighted, to contemplate and enjoy the brightest depths of our interesting and instructive science, and to whom, as I have somewhere seen well remarked, all methods and descriptions

descriptions should be able, should be intelligible and easy.

I SHALL be confused by many, and I am aware of it, and I think have noticed it before, for dividing the new *Meibreyantheum* into so many distinct species, as I have been induced (from a thorough examination and comparison of the plants) to do;—I believe them distinct from each other, (except where I have placed doubts to the contrary,) and have therefore arranged and described them accordingly.

I SHALL still be confused, and I am still aware of it, for referring to the works of Hill, and to the catalogues of Weston, Abercrombie, and Beck.

There may be thought of little consequence in an error like the present; and of no other use, than that of enlarging its bulk.

To this I must answer,—all the works of Hill which I have referred to, (and I should have referred to more if I had had them,) are useful in pointing out to the reader, the class, order, and division under which he thought proper to arrange the species of *Meibreyanthemum* which were known in his time.

And two catalogues of Walton, Abercrombie, and Stock, not only afford similar instructions, but inform the unlettered reader that the plants they describe were in the English gardens at the time they wrote, and (being translations,) make him acquainted with both the English descriptions and English names of the plants they enumerate.

I write it to be known, that I have already found my descriptions of *M. micifolius*, and *M. moniliformis*, to be wrong or faulty, particularly that of the latter, which indeed does not seem to belong to the section I have placed it under—neither do I, (for want of a good specimen) know, to what section to refer it.

M. succulentus, I have lately seen with two pair of ascending short leaves, crossing each other, and resembling those of *tuberculatus*: but the plant was in a warm stove, and possibly much dried: for when in the open air and in the summer season, the young shoots or shoots are shaped like ears, and have no real leaves but merely shallow cloths at top, which cloths are unequal and little more than sufficient

insufficient to distinguish the shoots from solid bodies.

On *M. acuminatum* I have to observe, I have seen a plant of it, which protrudes from between the very short sessile leaves I have described it to possess in the beginning of their enlargement; a pair of semi-cylindric, foliulate green leaves, above two inches long.

A FURTHER DESCRIPTION OF *MISMEBYAN-
THERIUM VILLOSUM*.

A LIVING SPECIMEN of *M. villosum* with flowers upon it almost open, is before me; from which I with pleasure extract the following description, —the more so, when I call to memory the defective brevity which attends the one I have already given.

GENERAL PROTECTLE an inch and an half long, cylindric, villosa, slightly thickening near the calyx.

FLOWERS, terminating the branch in a little head, three in number, one central larger, two lateral smaller.

BRACTEÆ, two, affixed to the base of the calyx of the central flower, pilosæ, sub-channel'd, patent, foliaceo-spinose, foliulose, near an inch long, near the base ciliatæ, not so fleshy as the leaves
of

of the branches but broader, protruding from their axils, the lateral flowers which are joined to them on the outside towards the base.

CALYX, central one, larger than the lateral ones, six leav'd, leaves unequal, all pale plain, broad at the base and rather tapering to a point, two outer larger, thicker, and more densely covered with hairs than the four inner leaves, which are less and slightly membranaceous,—in the expanded flower, all the calycine leaves, (which answer to the nature of petals in this plant,) acquire a pale purple tinge within, but remain green without,—the two lateral calices are less than the central one, but like it in all other respects, and furnished with similar bracted leaves, one of which protrudes from its axil the rudiment of an abortive flower, at the base of which sit the rudiments of bracted leaves similar to the above.

PETALS, none.

FILAMENTS, numerous, short, pale, or yellowish-white.

ANthers, large, oblong-figures, furrowed on both sides and deeply nick'd at both ends; yellowish.

POLENS,

POLEIN, yellowish.

GRAN, hexagonal, nearly hemispherical.

STYLIN, six, long, paleish yellow, expanding or recurving, stout for the size of the flower.

CAPITUL, six angled, six cell'd, dryish.

SEEDS, I have not seen.

FURTHER OBSERVATIONS ON *MIMODIANTHE- MUM SPINULIFERUM* AND *VIRIDIFLOREM*.

THE spinule noticed under my account of *M. spinuliferum* are not true spinule, —as living them on a healthy plant, I found them no other than the permanent nerves, or ligneous frings of the leaves, hardened and elongated by age and exposure to the action of the air, after the effication and decay of the pulpy part of the leaves which had enveloped them.

SIMILAR spinule are so be found in all aged plants of *M. viridiflorem*.

THEY are the only plants of the genus I have observed to possess this peculiarity.

FURTHER OBSERVATIONS ON *M. TROPICUM*.

I HAVE lately seen several seedling plants raised from Botany Bay seeds, which promise to be the same as *M. Tropicum*, —they have not yet produced any flowers.

FURTHER

FURTHER OBSERVATIONS ON *M. CANADICOLATUM*,
M. ERILE AND *M. ACINACIFORME*.

First large and healthy plants of these three species now lying before me have acquired the faculty of emitting fibres from almost all the joints on their young shoots, the undersides of which must apologise for the following account of these plants,—they have been for the last three or four months, (and it is now January,) in a good but dampish greenhouse, which has had occasional fires, and has sloping lights from the very top, but no upright fibres in the shoot.

They have grown on a shelf, in small fifty sized pots, in poor sandy earth, and have been liberally watered,—their shoots being pendulous from the shelf, and as soon one to two and a half feet in length.—The plants were raised from cuttings last summer, and have never been shifted into any other pots. The fibres seem to arise from the gibby or central parts of the branches, just beneath the joints, but towards the undersides of them, or their sides which were nearest the wall, and most shaded from the light,—a circumstance common to all creeping plants,
 indeed

indeed it is as natural for roots of all kinds to avoid and shun the light, as it is for their branches to court and search for it—I once set on foot a few experiments with a view of ascertaining the degree of these natural, and mutually opposite propensities—the subjects of them were placed in drinking glasses of a very small size, that the motions, actions, or methods of progressive growth of the stems, might be more advantageously observed and contemplated—the result of these experiments evinced to advantage the sacred propensity of nature to conceal the secrets of her vegetable subjects as much as possible from the light of day.—The subjects of the experiments were cuttings of succulent plants,—they were placed in a sunny window of a dwelling house, and watered occasionally,—in a short time they struck root, and the points and sides of several radicles were observed on the dark or northern sides of the glasses, but none at all on the light or southern sides of them,—after the plants began to fill the glasses with their roots, but not before, the sides only of a few radicles began to be visible on their light or southern sides, forced thither

in all probability for want of room; about which time I neglected the object I had in view when I instituted the experiments, and began to try what effect electricity differently administered, from a small machine, would have upon their vegetative powers; and (being in glass filled with soft earth,) I sometimes shocked myself and my friends, by giving small shocks from them, as from a small charged Leyden glass,—but to drop this digression, and return to the

FIBERS, or radicles on the under side of the shoots of the above mentioned sub-repent *Melambryanthema*. before me, viz. *M. canaliculatum*, *M. edule*, and *M. acinaciforme*, and more especially those of the latter,—its fibres appear to have arisen from the girth or heart of the plant, and to have burst or protruded themselves through its outer bark, or rather the sheaths of its connate leaves, in several irregular directions, they are very short, fleet, and white, and one, two, or three in number at a joint,—some of them have burst through the bark just below the joint,—others upon it,—and a few seem to have extruded themselves in a very strange manner be-
tween

tween the wood or central part, and the flanks of the leaves a little way upwards, to make their appearance, in the before of the leaves, in a real arillary posture,—they communicate to the plant a most regular and unusual appearance.

The fibres of the other two species, viz. *cruciculatum*, and *edule*, are all very regular, and arise as in the true septate species, from the under basis of the joints,—they are from one to three or more in number at each joint, of a white colour, and bending, and would, if placed in contact with moist ground, become strong roots in a very short time.

A SYSTEM.

A SYSTEMATICAL INDEX of the
Specific Names and Characters of the Plants described
in the foregoing Catalogues.

* A N N O A.

plumif- MAXIMILIANIUM foliis plumifil-
 idum (1) diis.

chrysal- MAXIMILIANIUM foliis ovatis al-
 idum cernis papulosis floribus sessilibus, caly-
 (2) cibus late ovatis, seotis rotatis.

lanceolatum MAXIMILIANIUM foliis oppositis
 (3) spatulatis, obtusis scabris, papulis
 oblongis, foliis calycibus oblongis
 obtusis, medio caudatis.

sessiliflo- MAXIMILIANIUM foliis planis spa-
 rum tulanis, caudicibus papulosis, ramis
 (4) divaricatis, floribus sessilibus.

glabrum MAXIMILIANIUM foliis angustis
 (5) ovatis distinctis, spatulatis glaber-
 rimis, pedunculis longitudine folio-
 rum, calycibus hemisphaericis.

Helland- MAXIMILIANIUM foliis spatula-
 thoides tis planis levibus, pedunculis longissi-
 (6) mis, calycibus basi planis angulatis.

para-

paniculata- *MINIMETANTHUM* foliis planifol-
 iatis cuneato-lanceolatis herbis suberectis
 (7) distinctis, cuneo pedunculo gemini-
 bulisque latis.

nodiflo- *MINIMETANTHUM* foliis alternis te-
 rum (8) rufescentibus obtusis, basi ciliatis.

apiculata *MINIMETANTHUM* foliis lanceolatis
 (9) lanceolatis, foliis varicosis, caulibus
 prostratis.

capitata *MINIMETANTHUM* foliis semiterni-
 bus (10) bus papulosis distinctis, floribus sessi-
 bus axillaribus, calycibus quinque-
 foliis.

* * B I E N N I A.

papulosa *MINIMETANTHUM* foliis oppositis
 (11) distinctis, ovato-oblongatis, papula
 subglobosa, calycibus angularibus quin-
 quefoliis, semine angulato.

Triglocha *MINIMETANTHUM* foliis alternis
 (12) lanceolatis planis unipinnatis, caulibus
 laxis teretibus, calycibus pentag-
 onis.

caudex. *MINIMETANTHUM* foliis filiformi-
 (13) bus semiternibus distinctis papulosis ovatis,
 F f Floribus

dentibus lateralibus foliibus terminatis,
basi foliorum caetis,

*** P E R E N N I A.

+ S U B A P H Y L L A.

*minimus *MESOMELANTHEMUM*, planta caespitosa
(14) oblonga truncata minima maculata,
maculis confinis.

*euciforme *MESOMELANTHEMUM*, planta caespitosa
(15) glauca subpeltata, foliis subovatis.

*monti- *MESOMELANTHEMUM*, caudex filiformis
forme subformis, foliis viridis aut brevibus
(16) ciliatis.

++ S U B A C U L I A F O L I O S A.

reticulata *MESOMELANTHEMUM* foliis quatuor
(17) decussatis supra glaucis.

*filum *MESOMELANTHEMUM* foliis caespitosa,
(18) linear-oblongis equales brevis obtusa
sinuatis glaucis.

*filiformis *MESOMELANTHEMUM* foliis caespitosa
(19) linear-oblongis inaequalibus obtusis
sinuatis subglabris.

*pernula

**pervide* *MESEMERTASTHEMUM* foliis obtusis
(10) inaequalibus punctatis serratisque,
extus convexis, intus plano-concavis.

**gibbifolium* *MESEMERTASTHEMUM* foliis inaequali-
(11) bus brevibus crassiusculis, extus gibbosis.

**pubescenti* *MESEMERTASTHEMUM* foliis linearibus
(12) coccosis inaequalibus subpubescentibus
subgibbosis, apice foliorum sub-
ciliatis.

digitatum *MESEMERTASTHEMUM* subcaule, foliis
(13) alternis teretibus obtusis, floribus axi-
llaribus sessilibus.

*colonne-
forme* *MESEMERTASTHEMUM* foliis subrotundis
(14) ascendens inapunctatis cuneatis,
floribus octogonis.

**subulata* *MESEMERTASTHEMUM* acaule foliis fa-
sciculatis (15) bulbis apice triquetris integerrimis.

subulatum *MESEMERTASTHEMUM*, acaule foliis fa-
(16) sciculatis triquetris dorso apice serratis.

velutiflorum *MESEMERTASTHEMUM* acaule, foliis tri-
(17) quetris linearibus punctatis, apice
velutinis densatis.

E l a

**denticulatum*

- *dentatum *MEXIMERTASTERNUM* foliis cuneatis
 immixtis compressis-triquetris
 (45) subacutis, basi attenuatis, apice
 fimbriatis.
- reflexum *MEXIMERTASTERNUM* acule, foliis tri-
 (46) angulatis cuneatis, extus tubercu-
 latis.
- *reflexo- *MEXIMERTASTERNUM* subacule, foliis
 toidum glaucis subulatis subtriangulis, basi
 (47) cuneis convexis, intus plicatis.
- compactum *MEXIMERTASTERNUM* acule, foliis
 cuneatis parvis fimbriatis, apice
 (48) triquetris subulatis acutis, dentibus
 filiformibus, calyce subcylindrico tri-
 lobato.
- albicans *MEXIMERTASTERNUM* acule, foliis tri-
 (49) quetris integerrimis.
- *canum *MEXIMERTASTERNUM* foliis immixtis
 (50) subulatis subcinasiformibus trique-
 tro-compressis, intus attenuatis, se-
 pte extus globosis.
- caeruleum *MEXIMERTASTERNUM* subacule, foliis
 (51) apice dentatis apice triquetris, den-
 tibus pedunculatis, pedunculis longioribus
 basi breviter.

folium

- folium MAXIMETANTHEMUM acule, foliis sub-
(35) terficylindricis dilatatis, ciliis longis.
- *lignum MAXIMETANTHEMUM acule foliis ma-
(36) culatis ciliisque, ciliis longissimis.
- *marium MAXIMETANTHEMUM subacule, foliis
(37) punctatis, basi semicylindricis strimatis,
apice triquetris infusum denticu-
latis, floribus subsessilibus.
- dolabro MAXIMETANTHEMUM foliis dolabi-
formis (38) formibus punctatis, caule erecto.
- *dolabro MAXIMETANTHEMUM subacule, foliis
formidinis subdolabroformibus punctatis, caule
(39) dolabra.
- difforme MAXIMETANTHEMUM foliis difformibus
(40) punctatis caeruleis.
- cruciatum MAXIMETANTHEMUM acule, foliis se-
(41) micylindricis subulatis subuliformi-
bus loricatis crassa patentibus,
cruciatum positis.
- *legulum MAXIMETANTHEMUM acule, foliis
(42) lamini-leguliformibus longe semicy-
lindricis.

- linguati** *MELICOMYANTHEMIS* foliis linguiformibus longioribus subaequalibus, pedunculi elongati.
- prepingas** *MELICOMYANTHEMIS* foliis linguiformibus brevifolia peristylis, junioribus alatispubescentibus, angustioribus apice recurvis.
- linguiformis** *MELICOMYANTHEMIS* foliis linguiformibus late obtusis, junioribus angustioribus brevioribusque; floribus brevifolia pedunculatis; calycibus lacinis subobtusulatis carinatis, carinis clauso-pubescentibus.
- latum** *MELICOMYANTHEMIS* foliis linguiformibus brevifolia late aequalibus, floribus subsessilibus.
- scalptura** *MELICOMYANTHEMIS* foliis scalptiformibus lacinia alata margine craf-floribus, basi latiusculis cartilagineo-pilosis, calycibus glaberrimis; floribus racemosis sessilibus; petalis apice emarginatis.

+++ CAULESCENTIA FOLII PLANIS.

herifera Maximilianthemon foliis amplexicaulis
 (48) lobis spatulatis cuneato papulosis
 coriace scabra, petalis micantibus.

cordata Maximilianthemon foliis cordatis
 (49) obtusis, caulis prostratis.

expansa Maximilianthemon foliis planis
 (50) lobis linearibus imbricatis petalibus
 distinctis oppositis alternatim micantibus.

rotundata Maximilianthemon, foliis planiusculis
 (51) oblongo-cuneis subpapulosis cuneatis
 cuneatis, calycibus triglytis linearibus.

palam Maximilianthemon foliis oppositis
 (52) amplexicaulis distinctis oblongo-
 linearibus acutis obtuse-cuneatis, pa-
 pulis micantibus.

+++ SUFFRUTESCENTIA FOLII SUBTUS
 ROTUNDATIS.

viridillo- Maximilianthemon foliis linearibus
 rum (53) densis papulosis-pilosis calycibus quin-
 quifidis luteis.

- **spinulifera*. MENMERTANTHEMUM foliis linearibus populoso-chrysalideis, stipulis spinuliferis.
(54)
- **ligularis*. MENMERTANTHEMUM foliis linearifolioribus, nervis dichotomis.
(55)
- **splendens*. MENMERTANTHEMUM foliis sessilibus linearibus imparibus nervis distinctis congestis, calycibus sessilibus digitiformibus.
(56)
- **subligularis*. MENMERTANTHEMUM foliis subcylindricis parvis apice subcurvis, calycibus linearibus subaequilongis.
(57)
- **reflexum*. MENMERTANTHEMUM foliis oppositis distichis sessilibus linearibus superis subcuneatis acuto-reflexis, nervis subvagatis papillois, papillis minutis.
(58)
- **sessilibus*. MENMERTANTHEMUM foliis sessilibus linearibus populosis, nervis sessilibus axillaribus, calycibus quadratis.
(59)
- **capitata*. MENMERTANTHEMUM foliis caudicatis, linearibus sessilibus populosis splendens, apice subcurvis, nervis dichotomis, capsula pellucida.
(60)

villosa

- villosum** (41) *MELICERTANTHEMUM* foliis pubescentibus cuneatis imbricatis caule piloso.
- coriaceolum** (42) *MELICERTANTHEMUM* foliis imbricatis longis equalibus mollibusque persisten- tibus, basi semicylindricis, apice semicy- lindrico-triquetris.
- diversiphyllum** (43) *MELICERTANTHEMUM* foliis cuneatis ramosis cuneatis inaequalibus subinde- pendentibus, semicylindricis-triquetris; caule prostrato elongato, petalis sub- tus purpureis.
- lanceolum** (44) *MELICERTANTHEMUM* foliis semicylin- dricis ramosis congestis, basi internodi- gulis cuneatis, caule perfoliato.
- *tricolocum** (45) *MELICERTANTHEMUM* foliis longissimis cuneatis cylindricis, caule procum- bente angulato, floribus polygynis.
- *elongatum** (46) *MELICERTANTHEMUM* foliis longissimis glaucis subtenuibus subulatis, basi internodi- cuneatis, floribus sub- polygynis.

*semicy-

**Sciryllis*-*Mimantanthum* foliis coracis
 dricis longe sciryllindricis papulosis, apice
 attenuatis subulquis, junctibus foli-
 ciliato pubescentibus.

terre- *Mimantanthum* foliis dentanti-
bus subulatis glabris distinctis, inter-
 nodiis longioribus.

**pin-* *Mimantanthum* foliis oppositis
formis subcylindricis cylindricis subpin-
 formibus, apice attenuatis, ramis axillis
 lignatis.

biolorum *Mimantanthum* foliis subtriang-
 ularibus, subulatis, subulatis-punctatis, pe-
 dunculis axillis papulosis-subulatis, co-
 rollis latis.

cocc- *Mimantanthum* foliis sciryl-
licis indrico-campulatis, ciliatis obusis,
 pedunculis sub-basiscatis basi latis,
 petalis coccineis.

noctil- *Mimantanthum* foliis sciryllin-
dris angustatis distinctis, dentibus
 pedunculis, ciliis pinnatis, caly-
 bus quadrifidis.

flumina-

- Asmone-** **MIMMETANTHEMUM** foliis semiter-
um tibus lacinia, crake arborescente,
 (75) floribus utrisque staminibus.
- brachia-** **MIMMETANTHEMUM** foliis semiter-
tum cylindricis papulosis, crake arbores-
 (76) centibus.
- lute** **MIMMETANTHEMUM** foliis cylindricis
 (77) obtusis angustioribus lacinia, caly-
 cibus quinquefidis, lacinia oblonga
 obtusa.
- grossum** **MIMMETANTHEMUM** foliis subcylin-
 (78) dricis confertis papulosis, crake basi
 lacinia, crake diffusa glabra.
- flapuleum** **MIMMETANTHEMUM** foliis lanceo-
 (79) latis-compressis lacinia punctatis
 diffusis confertis, basi marginatis.
- *perpro-** **MIMMETANTHEMUM** foliis lanceo-
proctum latis-compressis lacinia obtusis,
 (80) calycibus quinquefidis, lacinia diffusis
 confertis longis foliiferis, tri-
 bus interioribus lacinia mem-
 branacea.

venacu-

- serotinum** (79) *MINORANTHEMUM* foliis cylindrico-
subtriangulis acutis cuneatis acutius
imbricatis distinctis.
- molle** (80) *MAJUSANTHEMUM* foliis triquetris
cuneatis erectis glaucis imbricatis,
mucis semiteretibus, pedunculis axilla-
ribus cespitiis.
- *cypseli-
forme** (81) *MAJUSANTHEMUM* foliis brevibus
cespitiis-subtriangulis obtusis, sub-
cylindricis.
- *palustre** (82) *MINORANTHEMUM* foliis cylindrico-
subtriangulis obtusis subrida-puncta-
tis, parvis polycorymbosis.
- *speciosum** (83) *MINORANTHEMUM* foliis semicylin-
drico-subtriangulis, supra planiusculis,
obtusis, subincisurato-cuneatis, juniori-
bus crassiusculis papillo-spinescenti-
bus.
- nigrum** (84) *MAJUSANTHEMUM* foliis subcylind-
ricis papillo distinctis, cuneis
fistosis.
- *macula-
tum** (85) *MAJUSANTHEMUM* foliis patentibus
obtusis cespitiis-semicylindricis, cuneis
maculatis erectis.

tuber-

- subacutum *MESOMERYANTHEMUM* foliis subulatis
(88) papulosis distichis, apice petalo, ra-
dice capitata.
- brevis- *MESOMERYANTHEMUM* foliis cylindri-
cum
tum obtusilobis papulosis patentibus,
(89) nervis distinctis.
- hispidum *MESOMERYANTHEMUM* foliis distichis
(90) cylindricis, caule hirsuto, calycibus glabris
papulosis, florumibus purpureis lobatis.
- dentatum *MESOMERYANTHEMUM* foliis cylindri-
(91) cibus, caule hispidis, pedunculis caly-
cibus lanugineis.
- *tristatum *MESOMERYANTHEMUM* foliis caespitibus
(92) subcylindricis obtusilobis papuloso-
incaescentibus, caulis, peduncu-
liquis hispidis, calycibus chrysalidis.
- acutatum *MESOMERYANTHEMUM* foliis oblongis
(93) ovatis subtriangulis gibbis sessilibus
hispidis, laciniis calycum distinctioribus.
- barbatum *MESOMERYANTHEMUM* foliis subovatis
(94) papulosis distichis, apice barbato,
caulis prostratis recumbentibus, caly-
cibus pentaphyllis glabris.

hiatum *MESOMERTANTHEMUM* ramulis hirsutis
(93) foliis limbo cylindrico-turgidis subinde-
papulosis, apice barbatis, basi ciliatis,
calycibus sex vel septemphyllis inae-
qualibus.

densum *MESOMERTANTHEMUM* subcaule, foliis
(94) densissime imbricatis ciliatis limbo cy-
lindricis, supra subcauleatis, apice
barbatis; calycibus hexaphyllis sub-
aequalibus hirsutis.

++++ SUPFRUTESCENTIA FOLIS TRI- QUETRIS.

**perfolia-
tum** *MESOMERTANTHEMUM* articulis caulis
(95) teretibus foliis ciliatis acuminatis
punctatis glaucis triquetris, subtus
triacanthis.

serotinum *MESOMERTANTHEMUM* articulis caulis
(96) terminatis foliis ciliatis acuminatis
laevibus punctatis triquetris, subtus dis-
catis.

***viride** *MESOMERTANTHEMUM* foliis perfoliatis
(97) triquetris-limbo cylindricis acutis, im-
bricatis, apice mucinato-occurtis.

***molle** *MESOMERTANTHEMUM* foliis ciliatis
(98) perfoliatis minutis triquetris subinde-
punctatis,

pauciflora, apice subulato-recurvis, angulo carinali scabris.

*imbri-
tum
(99) *MESEMERTANTHEMUM* pedunculis sub-
unifloris, bracteis foliiformibus im-
bricatis, foliis perfoliatis glaucis tri-
quetris-lanceolatis.

*multiflo-
rum
(100) *MESEMERTANTHEMUM* foliis glaucis per-
foliatis triquetris, floribus aggregatis
subsessilibus.

bracte-
tum
(101) *MESEMERTANTHEMUM* foliis subcylind-
riciformibus paucifloris, apice recurvis,
bracteis angulicordatis.

*radatum *MESEMERTANTHEMUM* foliis longis sub-
(102) aequaliter-triquetris basi incrassatis,
apice attenuato-cucurbitis, floribus
bracteatis, bracteis triquetris cuneatis
saevis.

*composi-
tum
(103) *MESEMERTANTHEMUM* foliis triquetris
apice recurvis, basi submembranaceis,
pedunculis subterminalibus subsessilibus.

glacum
(104) *MESEMERTANTHEMUM* foliis triquetris,
acutis paucifloris diffusis, calycibus
foliaceis ovato-concatis.

*glaucos-
um
(105) *MESEMERTANTHEMUM* foliis triquetris
diffusis polyclo-paucifloris, carinatis
obtusis subglabris, pedunculis brac-
teatis.

* areum

- aequus (106) *Menthastranthus* foliis cylindricis-
 triquetris punctatis distinctis, pilis-
 in alio purpureo-lobis.
- umbellatus (107) *Menthastranthus* foliis subulatis
 subulato-punctatis serratis, apice pu-
 tulo, caule erecto, corymbo umbel-
 lato.
- speciosus (108) *Menthastranthus* foliis tri-
 angulis punctatis distinctis, apice
 serratis.
- marginatus (109) *Menthastranthus* foliis subulatis
 congestis subulatis, calycibus spinosis,
 petalis emarginatis.
- *marginatus (110) *Menthastranthus* foliis aggregatis
 distinctis triquetris subulato-punctatis
 albidis acuminatis, caule erecto.
- scabrum (111) *Menthastranthus* foliis subulatis
 distinctis foliis undique serratis,
 calycibus spinosis.
- densum (112) *Menthastranthus* foliis triquetris
 serratis glaucis, punctis obsoletis sub-
 ulatis, lacinis calycis interiori-
 bus membranaceis.
- septem (113) *Menthastranthus* foliis triquetris
 serratis scabris caule repente.

multis

- caule** **MINIMETANTHEMUM** foliis subtriangu-
(114) latis punctulatis cuneatis obtusifolia,
caule tereti apertis, pedunculis ob-
tusis acutis lobatis.
- crassifo-** **MINIMETANTHEMUM** foliis semicylin-
lites driis imbricatis cuneatis apice tri-
(115) angulis, caule reptante semicylindrico.
- decum-** **MINIMETANTHEMUM** foliis subtrianguli-
basis formibus laevibus glaucis compressi-
(116) siqueis imbricatis, basi attenuatis
semicylindricis, angulis obtusis, caule
decumbente.
- glomeri-** **MINIMETANTHEMUM** foliis orbiculatis
tum cuneatis punctatis, caule panicu-
(117) lato multiceps.
- filicatum** **MINIMETANTHEMUM** foliis subtrianguli-
(118) formibus recurvis punctatis distinctis,
caule teretibus.
- ciliatum** **MINIMETANTHEMUM** foliis oppositis
(119) cuneatis semicilicis, stipulis mem-
branaceis ciliatis lobis ciliatis.
- deltoides** **MINIMETANTHEMUM** foliis deltoideis
(120) triquetris, dorso et lateribus mucronatis
imbricatis distinctis.

caulescentes *MAMMISTANTHEM* foliis ellipticis del-
 (111) tatis lobis cuneatis dentatis,
 angulo cauali integris.

*transibile *MAMMISTANTHEM* foliis triquetris-
 (112) compellis subcinasiformibus di-
 stictis punctatis, angulo integris car-
 tilagineo-margatis.

filamento- *MAMMISTANTHEM* foliis equilateri-
 (113) bus triquetris acutis subpunctatis sub-
 cuneatis, angulo lobis, caule hex-
 agono.

littatum *MAMMISTANTHEM* foliis subulatis
 (114) triquetris punctatis distictis, angulo
 cauali exterioribus serratis, base acuta-
 brachione lato.

*lucorum *MAMMISTANTHEM* foliis coracis
 (115) obliquis punctatis glaucis compellis-
 triquetris acuminatis, angulo cauali
 lucris, petalis purpureis.

*spectabile *MAMMISTANTHEM* foliis perfoliatis
 (116) longilinis glaucis punctatis integri-
 rima triquetris, apice subulatis, caule
 ligulo ascendente.

pagoni- *MAMMISTANTHEM* foliis alutis
 (117) subulatis triquetris longilinis im-
 punctatis.

*aquiligerum

**equilato*. *MESIMERTANTHEMUM* foliis cocciferis
 ram. subconnatis longe obsoletis punctatis
 (118) subequilateris-triquetris integerrimis,
 caule angulato subinduratis profusis.

**acule*. *MESIMERTANTHEMUM* foliis equilateris-
 (119) triquetris acutis fuscis impunctatis
 coccatis, carina subferratis, caule an-
 cipiti.

**forficatis*. *MESIMERTANTHEMUM* foliis acinaci-
 (120) forficatis obtusis impunctatis coccatis,
 carina subferratis, caule uncipiti.

**acinaci-* *MESIMERTANTHEMUM* foliis acinaci-
 forme forficatis impunctatis coccatis, angulo
 (121) carinali subtus, pediculis lanceolatis.

**ram.* *MESIMERTANTHEMUM* foliis integris
 (122) laevibus, caule arborescente.

*** INCERTÆ TRIBUS.

+ NEW SPECIES.

**verrucul-* A stemless plant, with the habit of *cy-*
 calium (1) lamiforme.

**punctu-* A stemless plant,
 (1) ram.

♂ g =

**cylio-*

**cylladri*. A CRASSACEA leaved nearly fleshy plant.
(3)

**margis*. A SMALL plant, with the habit of *effusum* (4) fern.

**stichum*. A HANDSOME plant, much like *perichloa*.
(5)

**bellatum*. A MINUTE plant, much like *complanatum*.
(6)

**complanatum*. A MINUTE plant.
fern (7)

**microphyllum*. A SMALL leaved plant, like *cladophora*.
Yorkshire,
(8)

**microphyllum*. A SMALLER leaved plant, like *cladophora*.
Kensington,
(9)

**aggregatum*. A SMALL plant.
(10)

**transversum*. A MINUTE plant.
fern (11)

**lanceolatum*

*hetero- A STEMLESS plant, somewhat like *disphylum* (14.) form.

(*No. 13.) A PLANT like *papilioniforme*.

(*No. 14.) A PLANT like *versiculatum*.

(*No. 15.) A PLANT like *gibbosum*.

(*No. 16.) A PLANT like *chrysalidum*.

(*No. 17.) A PLANT like *hopeditum*.

†† DESCRIBED BY AUTHORS.

cuneo- *MAXIMISTANTHEMUM* foliis lanceolatis-
form cuneiformibus oppositis integerrimis
 (1) plicis liliatis, cum caule terete
 purpureo-papulato. *Gmel. Syl. Nat.*

capillorum *MAXIMISTANTHEMUM* foliis ovatis longis
 (2) unilobis. *Gmel. Syl. Nat.*

capillae *MAXIMISTANTHEMUM* foliis cuneatis
 (3) serratis papulato, caule caeco, tereti-
 li unilobis, filiformibus glabris. *Gmel. Syl. Nat.*

Volkmanii *MAXIMISTANTHEMUM* (Picoides) affi-
 (4) cas procumbens liliatis asper, foliis
 lris agnatis minutis! *Fl. Norberg.*
 166.

Hermannii *MIMMERANTHEMUM* (*Ficoides africana*
(5) *arvensis confusoides*.) Horn. Par. Bot.
169.

maifolium *MIMMERANTHEMUM* (*Ficoides arvensis*
(6) *maifolia*.) Horn. Par. Bot. 170.

To all the above-mentioned *Mimmeranthema* I will add the seven following species, which I have found (since I wrote the above index) described and figured by Patour in his *Gaz.*—they appear different from all the foregoing and from each other.

lance- *MIMMERANTHEMUM* (" Blue Cape
litem " fig-marygold, with bay leaves, and
(7) " a purship root, the middle of the
" flower is full of threads ty'd with
" purple,") Pat. *Gaz.* t. 88. 4. col.
476.

confusum *MIMMERANTHEMUM* (" Broad curl'd
(8) " leaf'd Cape fig-marygold with a
" purple churning flower,") Pat. *Gaz.*
t. 88. 5. col. 477.

granite- *MIMMERANTHEMUM* (" Cape fig-
um " marygold, with grass leaves, by
(9) " which, and its five green leaved
" flaxy

"bary flower cup, it is distinguished
"from others,") *Pet. Gaz.* t. 11. 4.
cat. 481.

clavata *MINIMISTANTHUM* ("Club-leaved
(10) "Cape fig-marygold,") *Pet. Gaz.* t.
11. 7. cat. 487.

humile *MAXIMISTANTHUM* ("Dwarf (thus-
(11) "gular Cape yellow fig-marygold,")
Pet. Gaz. t. 11. 1. cat. 477.

Petiveri *MINIMISTANTHUM*, ("Dwarf (thus-
(12) "gular Cape red fig-marygold,") *Pet.*
Gaz. t. 11. p. Cat. 470.

adham *MINIMISTANTHUM*, ("Ficoides,
(13) "ficta, maxillata, parviflora, the
"natives call this Lawson.") *Pet. Gaz.*
t. 11. 3.

OBSERVATIONS.

THIS may be the same as my *minimum*,
but can scarce be *saxifraga*; its
ascending and as it were pedunculated
effects or branches should seem to pro-
claim it different from both. *Petiver*
appears to doubt its being a *fig-mary-*
gold;—by its great resemblance to *mi-*
nimum, I think the doubt is done
away.

E R R A T A.

PAGE 205, line 2, instead of *for* read *from* (comp. 2, l. 22, *dele* *for*, comp. 22, l. 2, the *Mythologasteron* read *Mythologasteron*, comp. 23, l. 2, the *chrysalidion* read *chrysalidion* (comp. 24, l. 2, also *Poliope* *dele* 3, comp. 42, l. 26, for *Mythologasteron* read *Mythologasteron* (comp. 42, l. 26, after *from* add *for* (comp. 44 and 45, for the words *anagale* *de* *anagale* read *anagale* (comp. 53, l. 3, after reference add 2, comp. 55, l. 23, for *lygion* read *lygion* (comp. 56, l. 42, for *aly* read *aly* (comp. 57, l. 26, for *lygion* read *lygion* (comp. 58, l. 26, for *aly* read *aly* (comp. 61, l. 2, for *lygion* read *lygion* (comp. 64, in the Notes, transcribe the marks of reference as Müller and Curtius, comp. 121, l. 20, for *aly* read *aly* (comp. 172, l. 2, for *lygion* read *lygion*, l. 27, for *anagale* read *anagale*, l. 28, for *lygion* read *lygion*, l. 3, for *Protophion* read *protophion* (comp. 212, for *aly* read *aly* (comp. 231, for *it* read *is* the mark, comp. 250, l. 21, for *anagale* read *anagale* (comp. 256, l. 21, for *lygion* read *lygion* (comp. 261, l. 2, for *lygion* read *lygion*).

A NUMERICAL INDEX of the Species and Varieties; arranged after my own Method.

* A N S U A.

THE Plants marked with a single asterisk in the margin of the Numerical Index, are not named in the last edition of Linnaeus's Species Plantarum.

And those marked with two asterisks are (to the best of my knowledge) newly seen, or undescribed; at least, I had no certain notion of any them in my author I have had the opportunity of consulting.

No.

1 [*]	<i>Mammillaria</i>	<i>Yuccifolia</i> .
2	—————	<i>chrysalinum robustum</i> .
3 ^{**}	—————	<i>chrysalinum affine</i> .
4 [*]	—————	<i>longistylus</i> .
5 [*]	—————	<i>stellatum</i> .
6 [*]	—————	<i>glabrum</i> .
7 [*]	—————	<i>Hellerioides</i> .
8	—————	<i>peruviana</i> .
9	—————	<i>aculeatum</i> .
10 [*]	—————	<i>apiculatum</i> .
11	—————	<i>capitatum</i> .

** B I E N N I A.

12 [*]	<i>Mammillaria</i>	<i>populifolia</i> .
13	—————	<i>Triglochin</i> .
14 [*]	—————	<i>obovatum</i> .

*** P E R E N N I A.

+ SCRAPHYLLA.

15 ^{**}	<i>Mammillaria</i>	<i>incana</i> .
16 ^{**}	—————	<i>albicans</i> var.
17 ^{**}	—————	<i>arborescens</i> .
18 ^{**}	—————	<i>moniliformis</i> .

†† SUBA.

II SUBCAULIA FOLIOSA.

35 ^a	<i>Menyanthes arvensis</i> Willd.
36 ^{aa}	 <i>ibid.</i>
37 ^a	 <i>ibid.</i>
38 ^{aa}	 <i>perfoliat.</i>
39 ^{aa}	 <i>globosa.</i>
40 ^{aa}	 <i>pulchra.</i>
41 ^a	 <i>aperta.</i>
42	 <i>colorata.</i>
43 ^{aa}	 <i>filiculm.</i>
44 ^a	 <i>ibid.</i>
45	 <i>hirsutum foliat.</i>
46 ^a	 <i>hirsutum purpureum.</i>
47 ^a	 <i>hirsutum album.</i>
48 ^{aa}	 <i>denticulatum rufum.</i>
49 ^{aa}	 <i>denticulatum glaucum.</i>
50 ^{aa}	 <i>denticulatum caudiculatum.</i>
51	 <i>retorta.</i>
52 ^{aa}	 <i>retorta.</i>
53 ^a	 <i>compansa.</i>
54	 <i>ibid.</i>
55 ^{aa}	 <i>can.</i>
56	 <i>can.</i>
57	 <i>ibid.</i>
58 ^{aa}	 <i>aperta.</i>
59 ^{aa}	 <i>arvensis.</i>
60	 <i>denticulata.</i>
61 ^{aa}	 <i>denticulata.</i>
62	 <i>dilatata.</i>
63 ^a	 <i>cruciat.</i>
64 ^{aa}	 <i>regalis.</i>
65	 <i>longa.</i>
66 ^{aa}	 <i>propinqua.</i>
67	 <i>longa.</i>
68	 <i>ibid.</i>
69	 <i>ibid.</i>

III CAULIS.

III CAULESCENTIA FOLII FLAVIA.

41 ⁺	<i>Monocarpus</i> <i>lanceola</i> .
42 ⁺	_____ <i>ovoides</i> <i>altus</i> .
43 ⁺	_____ <i>ovoides</i> <i>altus</i> .
44	_____ <i>ovoides</i> .
45	_____ <i>ovoides</i> .
46	_____ <i>ovoides</i> .

III SUPRAESCENTIA FOLII SURTUS EQ-
TUSUATIA.

47 ⁺	<i>Monocarpus</i> <i>ovoides</i> .
48 ⁺	_____ <i>ovoides</i> .
49 ⁺	_____ <i>ovoides</i> .
50 ⁺	_____ <i>ovoides</i> .
51 ⁺	_____ <i>ovoides</i> .
52 ⁺	_____ <i>ovoides</i> .
53 ⁺	_____ <i>ovoides</i> .
54 ⁺	_____ <i>ovoides</i> .
55	_____ <i>ovoides</i> .
56	_____ <i>ovoides</i> .
57	_____ <i>ovoides</i> .
58	_____ <i>ovoides</i> .
59	_____ <i>ovoides</i> .
60	_____ <i>ovoides</i> .
61 ⁺	_____ <i>ovoides</i> .
62 ⁺	_____ <i>ovoides</i> .
63 ⁺	_____ <i>ovoides</i> .
64 ⁺	_____ <i>ovoides</i> .
65 ⁺	_____ <i>ovoides</i> .
66 ⁺	_____ <i>ovoides</i> .
67 ⁺	_____ <i>ovoides</i> .
68	_____ <i>ovoides</i> .
69 ⁺	_____ <i>ovoides</i> .
70 ⁺	_____ <i>ovoides</i> .
71 ⁺	_____ <i>ovoides</i> .
72	_____ <i>ovoides</i> .
73	_____ <i>ovoides</i> .
74	_____ <i>ovoides</i> .
75 ⁺	_____ <i>ovoides</i> .
76 ⁺	_____ <i>ovoides</i> .
77 ⁺	_____ <i>ovoides</i> .
78 ⁺	_____ <i>ovoides</i> .
79 ⁺	_____ <i>ovoides</i> .
80 ⁺	_____ <i>ovoides</i> .

13. *Monocarpus*

28	<i>Microrhynchium</i>	<i>versutum</i> .
29*		<i>scitula</i> .
30**		<i>cylindricum</i> .
31**		<i>puberulum</i> .
32**		<i>cruciatum</i> .
33	.....	<i>stratum</i> .
34**		<i>minus patulum</i> .
35**		<i>stridulum</i> .
36	.....	<i>fulvum</i> .
37*		<i>horridum</i> .
38	.....	<i>hujusmodi purpureum</i> .
39	.....	<i>hipidum pallidum</i> .
40	.....	<i>serotum</i> .
41**		<i>lividum</i> .
42*		<i>oblongum affine</i> .
43*		<i>oblongum laevius</i> .
44	.....	<i>brachyum</i> .
45	.....	<i>brachyum</i> .
46	.....	<i>brachyum</i> .

†† SUPRAUTICORNIA FOLII TRIOQUETI.

47	<i>Microrhynchium</i>	<i>pallidum</i> .
48	.....	<i>stratum</i> .
49**		<i>scitula</i> .
50**		<i>scitula</i> .
51**		<i>oblongum</i> .
52**		<i>oblongum affine</i> .
53*		<i>brachyum</i> .
54**		<i>collatum</i> .
55**		<i>compellum</i> .
56	.....	<i>glacium</i> .
57**		<i>glacium</i> .
58	.....	<i>stratum</i> .
59**		<i>stratum pallidum</i> .
60	.....	<i>oblongum</i> .
61	.....	<i>hypidum</i> .
62	.....	<i>purpureum</i> .
63**		<i>marginatum</i> .

64: *Mauro.*

111	<i>MINIARYSTHEMUM</i>	<i>subsum.</i>	111
112 ²²	.....	<i>deflexum.</i>	
113 ²²	.....	<i>repens.</i>	
114 ²²	.....	<i>aculeata.</i>	
115	.....	<i>cratichneum.</i>	
116 ²²	.....	<i>decumbens.</i>	
117	.....	<i>glomerulosa.</i>	
118	.....	<i>filiform.</i>	
119 ²²	.....	<i>filiform.</i>	
120	.....	<i>delicoides minima.</i>	
121	.....	<i>delicoides major.</i>	
122	.....	<i>umbellata.</i>	
123 ²²	.....	<i>variabilis.</i>	
124	.....	<i>stansolum.</i>	1
125	.....	<i>diversum.</i>	
126 ²²	.....	<i>lucorum.</i>	
127 ²²	.....	<i>spiculata.</i>	
128	.....	<i>pygmaea.</i>	
129 ²²	.....	<i>pygmaea brevis.</i>	
130 ²²	.....	<i>pygmaea.</i>	
131	.....	<i>rotata.</i>	
132	.....	<i>fulvum.</i>	
133	.....	<i>apiculata.</i>	
134 ²²	.....	<i>apiculata.</i>	

*** INCERTA TRIBUS.

+ NEW SPECIES.

135 ²²	<i>MINIARYSTHEMUM</i>	<i>umbellatum.</i>	
136 ²²	.....	<i>puberulum.</i>	
137 ²²	.....	<i>apiculatum.</i>	
138 ²²	.....	<i>magnatum.</i>	
139 ²²	.....	<i>diversum.</i>	
140 ²²	.....	<i>fulvum.</i>	
141 ²²	.....	<i>compressum.</i>	
142 ²²	.....	<i>macrophyllum</i> (Yorkshire)	
143 ²²	.....	<i>microphyllum</i> (Kensington)	
144 ²²	.....	<i>pygmaea.</i>	

145²² *blanum.*

- 140th *Microgaster* *lucicola* n. sp.
 141th " " " " *lucicola* n. sp.
 142th " " " " *lucicola* n. sp.
 143th " " " " *lucicola* n. sp.
 144th " " " " *lucicola* n. sp.
 145th " " " " *lucicola* n. sp.

40 DESCRIBED BY AUTHORS.

- | | |
|---|--------------------|
| 146 th <i>Microgaster</i> <i>lucicola</i> n. sp. | } Gen. Sp. Nat. |
| 147 th " " " " <i>lucicola</i> n. sp. | |
| 148 th " " " " <i>lucicola</i> n. sp. | |
| 149 th " " " " <i>lucicola</i> n. sp. | } Vol. 1, Pl. Nat. |
| 150 th " " " " <i>lucicola</i> n. sp. | |
| 151 th " " " " <i>lucicola</i> n. sp. | } Pl. Nat. |
| 152 th " " " " <i>lucicola</i> n. sp. | |
| 153 th " " " " <i>lucicola</i> n. sp. | } Pl. Nat. |
| 154 th " " " " <i>lucicola</i> n. sp. | |
| 155 th " " " " <i>lucicola</i> n. sp. | |
| 156 th " " " " <i>lucicola</i> n. sp. | |
| 157 th " " " " <i>lucicola</i> n. sp. | |

ADVERTISEMENT.

IF ever the germinating rudiments of merit are discovered in the foregoing OBSERVATIONS, I shall merit a sufficient reward, and I shall be encouraged to extend them to the other orders of succulent plants.

It now, let silence content me!—

Let my Botanical readers examine and judge!—

Let the Public decide!!!—

AND I shall also be encouraged to publish *Flora Cottinghamensis*; or a Botanical Arrangement and Scientific descriptions of all the plants I discovered wild in the ancient parish of Cottingham, in the East Riding of the county of York, in the year 1792; with a full relation of their uses, economy, and peculation.

AND some account of the antiquities, zoology, and natural history of that place.

Tat

THE natural productions of Cotingham
(especially its vegetables) amount to a
number that few parishes in this
kingdom are capable of surpassing.

Pleasant specimens of them are now
in my possession.

It is the Author's humble wish to thank
himself upon the indulgent clemency
of his latest readers, for a pardon of
such trivialities or other inaccuracies,
as too long detained his eye for con-
venient correction.

F I N I S.





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